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MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

EDITED BY

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SURGEON TO ST. FRANCIS HOSPITAL, NEW YORK; CONSULTING SURGEON TO THE NEW YORK CANCER HOSPITAL, AND TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK

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MUNDÉ'S CASE OF SPONTANEOUS EXPULSION OF A SUBMUCOUS FIBROMA FROM THE UTERUS AND VAGINA

LINDNER, EDDY & CLAUSS, LITH N Y

[TAKEN FROM A TREATISE ON MEDICAL AND SURGICAL GYNÆCOLOGY BY S. POZZI, M.D., NOW IN PRESS BY WM. WOOD & CO.]

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Original Articles.

SPONTANEOUS EXPULSION OF UTERINE FIBROIDS. WITH CHROMO-LITHOGRAPHIC ILLUSTRATION.

(FROM POZZI'S GYNECOLOGY)

"THE natural evolution of a fibroma tends toward its expulsion from the uterine walls, either externally or into the peritoneal cavity, and this effort is shown by the pedicles which are produced in these two directions. Although such cases are rare, still at times we observe the accouchement of a polyp under the influence of strong uterine contractions with rupture of the pedicle. The same thing may occur from the weight of the tumor alone and the thinning of the pedicle. In these conditions an effort of defecation or of vomiting suffices to expel the polyp. The rupture of the capsule of a submucous fibroma may produce its spontaneous enucleation, preceded by a period of pains and hemorrhage, or suddenly after some effort, or while under examination; it has sometimes followed labor and the consecutive contraction of the uterus.

"An analcgous process to that which causes the rupture of the pedicle of a submucous polyp may also liberate a fibroma which is subserous and pedicled. The tumor then remains grafted to some point where it has formed adhesions, or lies free in the peritoneum and undergoes a kind of mummification.

"Another and more serious mode of spontaneous extrusion is preceded by the sloughing of the tumor, the sphacelated portions tending to escape outwardly; at times this takes place toward the uterine cavity, and all may go well, despite the danger of infection. Or there may be perforation of some neighboring organ, as the bladder, the recto-vaginal pouch, or the abdominal wall; the two former almost always causing death, the latter sometimes ending in recovery."

The plate accompanying this extract shows clearly the form, color, and size of a submucous fibroid which was expelled by a woman forty-nine years of age, who had had one child twenty eight years before. For several weeks she had complained of "falling of the womb," and at the time of expulsion she had felt something protrude from the vulva after making a sudden movement while standing. At the same time there was pain in the abdomen and an escape of blood from the vagina. An examination by Dr. Mundé disclosed the condition shown in the accompanying chromo-lithographic frontispiece. There had been a spontaneous expulsion of a submucous fibroma with partial inversion of the uterus. The tumor was rapidly detached with the fingers, the uterus easily replaced, and its cavity and the vagina packed with iodoform gauze. Recovery was uneventful.

Interesting points in the case were the rapidity with which the protrusion occurred, the absence of excessive hemorrhage and pain, and the obscurity of the diagnosis caused by the excessive fatness of the patient. Her abdominal walls were so thick that, even when completely relaxed by anæsthesia, it was impossible to distinguish the cup shaped depression over the uterus which is characteristic of inversion.

CONSIDERATIONS UPON MEDICAL HEMORRHAGE SURGICALLY TREATED; WITH A SUCCESSFUL CASE, BY A NEW TECHNIQUE, OF SALINE INFUSION FOR SEVERE HEMORRHAGE.[1]

BY ROBERT H. M. DAWBARN, M.D.,

PROFESSOR OF OPERATIVE SURGERY AND SURGICAL ANATOMY, NEW YORK POLYCLINIC.

"Friendship's blind service, in the hour of need,
Wipes the pale face, and lets the victim bleed.
Science must stop to reason and explain;
Art claps his finger on the streaming vein!"

THUS sings our sweetest singer. But what shall Art do when that vein is out of safe reach of his finger? What, in cases of apoplexy, hæmoptysis, wounds of the lung, hæmatemesis? Who is there that feels even a moderate amount of satisfaction with our success in checking bleeding where the broken vessel is not amenable to direct pressure or the artery-clamp?

The drugs we use—some of us—are legion. They range from ergot to gallic acid; from turpentine to lead; and yet we have a very strong feeling that our efforts along this line are commonly of little avail, and that other and natural causes, mainly, effect the cure, if bleeding ceases.

The very fact that the list of remedies at our command, and recommended by standard authorities as of some use, is so long a one, of itself goes to show their inefficacy.

Dr. Loomis's opinion in a matter of bleeding from the lungs is one which would be, I think, accepted with respect.

His "Text-book of Practical Medicine," eighth edition, p. 95, says: "It has never seemed to me that styptics or astringents have any control over bronchial hemorrhages, but aconite and opium are the two remedies upon which I rely. When the pulse is full and strong I use aconite; when it is weak, I employ morphia hypodermatically."

The really valuable means, concerning which the present paper is in part to treat, Dr. Loomis does not even mention.

As to aconite, so far as it is of use at all, it is by bleeding the patient into his own veins, so to speak; and has hence been called the "vegetable lancet." This idea in a much more efficient form is just what I propose to advocate. Regarding morphine, by slowing the breathing it renders the pulmonary circulation rather less active, and it also causes mental quietude and calm. But that is all. After a time nature causes a coagulum at the mouth of the bleeding vessel, and to aid this our drugs do very little.

During eight to ten years past I have for purely logical reasons been urging upon my students a different line of treatment in these cases—cases, I mean, of dangerous and yet unreachable bleeding anywhere.

This plan is simply to collect a great portion of the blood elsewhere than at the bleeding point, until time has been given for a firm clot to form—say an hour or so—and then slowly allow it to re-enter the general circulation.

[1] Read at a meeting of the Surgical Section of the New York Academy of Medicine, held November 9, 1891; also read in major part at the Annual Meeting of the Orange County Medical Society of New York

It is plain that this sequestration, especially if carried to the extent of causing a feeling of faintness, must diminish the blood-pressure at the bleeding point and thus conduce to clotting.

The experience which has been gained by actual practice of this plan during these years has added to my confidence in what seems almost a self-evident proposition. The plan is nothing new, I need hardly say; but devised in a day when, as to scientific knowledge regarding the circulation, the margin was wider than the text thereof, it seems not to have appealed strongly to the common-sense of the fathers in medicine. So far as I can discover it was not vigorously and faithfully tried, and was allowed to lapse. Instead, in those days, bleeding was done to check bleeding. For instance, it was at one time standard, in hemorrhage from a wounded lung (in addition to tamponnage) to bleed to faintness. The idea is similar, of course, to that now under discussion, and is perfectly sound in theory; only, the patient would presently need that lost blood to avoid dangerous shock and to aid recuperation of strength. A *temporary* bleeding, into his own veins, so to speak, would have been wiser.

Herein the Spanish windlass is our friend. That is, a towel or handkerchief is knotted loosely around the limb (or, if need be, the same method on all four limbs) at the junction with the body; and by twisting this with a stick blood is prevented returning to the trunk. In consequence the limb swells visibly. The arterial circulation is not so easily shut off; nor, of course, do we wish it to be. Hence we avoid stopping the pulse on the distal side of our windlass.

That such local stagnation of circulation is not free from danger in careless hands is granted. The limbs should be watched and kept well warmed; the constrictions should not too long be maintained lest gangrene result. This, like other serious measures in medicine, is to be advised simply as the lesser evil, and where death threatens from a severe hemorrhage not otherwise controllable.

There are certain persons born with what Oliver Wendell Holmes calls a "squinting brain." The proposition that the sum of seven and five is twelve they regard with suspicion. To them it seems eleven. Once in a while, by trying and proving everything, and taking nothing at all for granted, they really do upset some alleged fact upon which men have builded. Then their seven and five becomes that "little leaven which leaveneth the whole lump."

Such a doubting Thomas surprised me a few months ago when I was discussing these matters with him. I had been speculating upon the possible outcome, had the greatest pulpit orator of this age, when stricken with apoplexy, been promptly Spanish-windlassed, instead of being treated after the sugar-pellet method. I thought it quite possible not only that death might have been averted, but that a small brain-clot, instead of a huge one, might have resulted; and the patient, surviving this slight and partial stroke, might have given the world a further period of brilliant work.

Here the gentleman with the mental squint observed that he hardly thought so. Indeed, upon reflection, he thought the plan suggested would be harmful. For by diminishing, as it would do, the amount of blood in the brain-vessels (by collecting it elsewhere in the body), the pressure outside those vessels would be lessened. Hence there would be less resistance, within the skull-cavity to a big clot forming than otherwise would be the case. He thought, therefore, that hereafter he would have his apoplectic patients at once placed with the head lower than the trunk; for the quicker the head filled with blood, distending its vessels, the less space there would be for a clot to form in the brain outside them, and hence the more resistance to the outflow from the broken artery which would cause that clot!

In order to settle the point thus raised I wrote to Dr. William Gilman Thompson, who is very good-natured, a classmate of mine, and Professor of Physiology in the University of New York. Dr. Thompson's reply I will read you, by his permission:

"March 18, 1891.

"My Dear Dawbarn: I am much interested in your discussion regarding apoplexy, for I have recently been repeating some experiments upon intra-cranial pressure which I first saw in the Hoagland Laboratory a year or more ago.

"I. The normal blood-pressure in a dog's carotid supports a column of water about seven and a half or eight feet high. If the dog's skull be trephined, and a cork perforated by a small glass tube be carefully fitted into the trephined opening, water-pressure may be applied to any desired extent through the tube over the surface of the brain. No effects are noticed until such pressure becomes greater than the carotid pressure; *i.e.*, greater than eight feet of water. When this limit is passed the animal has convulsions, at first unilateral, affecting the legs of the side opposite the tube, then becoming general, until death is imminent from spasm of the diaphragm.

"Reducing the pressure is followed by immediate relief. By raising and lowering the pressure-bottle, convulsions may be produced and controlled *ad lib.*

"Remove the cork, and for several minutes the cortical vessels appear excessively anæmic. Then follows intense congestion, so great as to cause considerable hernia of the brain through the opening. It would be interesting indeed to apply windlasses in various situations, and note the effect while the above experiments were being performed.

"II. *Strapping the large veins in the extremities to prevent venous return, during pulmonary hemorrhage, has undoubted and immediate effect in lessening that hemorrhage. I have often verified this.*[1]

"III. Such procedure would doubtless tend to lessen extra-vascular cerebral pressure, but it would simultaneously lessen the intra-vascular pressure, and the latter would be affected to a greater degree, and more promptly, I should think, tending to give the hemorrhagic blood time to clot.

"The reason for this would be that the extra vascular pressure would be dependent somewhat upon conditions of absorption and osmosis, which would act more slowly than the almost instantaneous effect of withdrawing blood from the heart by damming it back in the extremities.

"Even ligating the carotids or the vertebral arteries has no very decided effect upon the quantity (and hence the pressure) of the ventricular fluid, or the amount of fluid contained in any of the cerebral tissues; while, of course, the pulsations of the brain cease and the intra-vascular cerebral pressure falls.

"I should think, in conclusion, decidedly, that the very worst thing one could do in a case of apoplexy would be to increase, in any manner, the intra-vascular pressure.

"Sincerely yours,

"W. Gilman Thompson."

Such testimony as this no man can ignore.

I do not say that we should utterly discard the use of drugs in such cases; but would formulate my position in this wise: Whenever there is bleeding acute enough to threaten life, and not within reach of direct pressure nor of the artery-clamp, our main reliance should be the tourniquet or windlass, generally placed upon all the limbs.

I need hardly say that promptitude and the ounce of prevention may here save a pound of blood. Given a case where bleeding from the lungs or stomach has already occurred; or given a patient where family history, atheroma, high living, and attacks of cerebral congestion (perhaps with one or two slight strokes already sustained) point to apoplexy as the probable end of the story, we should make it a rule to show the relatives, privately, how to make and use the windlass. As to apoplexy, we should say to them: "If ever Mr. A—— becomes sud-

[1] Italics mine.—R. H. M. D.

denly unconscious, then, unless his face is pale and his pulse weak, put on the windlass instantly, tightly enough to make the limbs swell. Do this even before you send for the nearest doctor. Do not leave these bands on longer than an hour."

As a matter of collateral interest I may remark that in pulmonary œdema, suddenly developed by cardiac exhaustion from any cause, the windlass on the extremities offers, I believe, our speediest means of relief to the heart, tiding over a critical period until by free stimulation this organ can be made to resume efficient work. Valuable as is cupping in pulmonary œdema, the windlass is much more so, and for reasons which are obvious upon reflection.

In the remainder of this paper let us discuss briefly the question of saline infusion as a supportive means after checking an alarming hemorrhage.

I firmly believe that many a life is now lost in private practice because after severe post-partal or other bleeding has been controlled, the family doctor has not had the nerve, or the experience, or the appliances thought necessary to accomplish infusion; and the remaining amount of circulating medium being not enough, the patient succumbs.

And I have an abiding hope and trust that a plan of which I am about to speak—an exceedingly simple plan—may be the means of so popularizing saline infusion that it will be used wherever a sharp bleeding has occurred, even though life be not actually imperilled thereby.

But first it may be well to remark that the day of transfusion (either mediate or immediate), as distinguished from infusion, is past. That is to say, we now know that as good if not better results are reached by injecting warm saline-alkaline water as by transfusing blood. Aside from the obvious dangers—clotting, with embolism, sepsis, etc.—attendant upon the use of any kind of blood, we now know that blood-cells other than the human are broken down and disintegrated almost at once within the human body; and in consequence a great mass of detritus is thrown upon the organs having charge of metabolism of tissue, threatening to overwhelm them with work. Even human blood-cells are probably always so destroyed, although more slowly, when transferred into another body than that which gave them birth.

What seems needed is only some unirritating fluid supplying the lacking volume within the heart and vessels.

That is, to give to the heart a sufficient bulk of some harmless current running through its chambers to excite systolic action. If this is done, and done promptly, before the patient suffers too much from the shock caused by sudden and extreme anæmia, it is wonderful how large a loss of blood may be survived, and how rapidly, as if by magic, nature supplies multitudes of new red blood-cells to replace those lost.

As emphasizing these points, the following quotation from an eminent authority will be of interest:[1]

"After the greatest losses of blood in animals, a sufficient number of red corpuscles always remain in the circulation to carry on respiration, provided that the circulation is maintained. In animals, after the loss of half or two-thirds of the total quantity of blood in the body, the number of corpuscles per cubic millimetre may be found as high as 3,000,000 or 4,000,000. The absolute loss is great, but the relative loss is slight and is of little importance. The animal's health is in no way affected injuriously by the loss. . . . In man the loss of blood can never be so great as in animals. Syncope occurs earlier. Transfusion of blood is therefore never required for the purpose of supplying red corpuscles to carry on respiration after sudden loss of blood in a patient previously healthy. The immediate source of danger in such cases is not the want of red corpuscles but the disturbance of the relation between the vascular system and its contents. . . .

"It is remarkable how slight the disturbance in respiration may be in cases, for example, of pernicious anæmia in which the red corpuscles may be reduced to ten per cent., or even less, of their original number. I have observed cases in which the number of corpuscles was as low as 500,000 or 600,000 per c.mm. instead of 5,000,000 as in health; the respirations never rising above twenty per minute, the breathing during quietude being perfectly tranquil throughout."

Of course, if one had abundant time in which to prepare, the best saline-alkaline fluid it would be one identical in its components and their proportionate quantities with those found in blood-serum. Most surgical text-books give a formula more or less approaching this, though simpler. Of late it has been recommended by Ludwig, of Leipsic, to add to our saline-alkaline water a little sugar; this being a natural ingredient of blood.

Simplest of all, and so far as we can see, practically about as good as the most complicated of the formulæ, is warm water plus a little table-salt. It has the great advantage, too, of being always easily obtainable when wanted. The best proportion of salt is six in one thousand parts, or about that of blood serum. This would be, roughly, a heaped teaspoonful to a quart of warm water. The water should first be boiled, for reasons of asepsis.

We must never forget the salt. Such an omission would be fatal. Pure water, devoid of sodium chloride, when injected in any considerable amount, will at once dissolve out of the blood cells their hæmoglobin and thus promptly kill the patient.

Now for the new and simple technique to which I alluded a few minutes ago.

It involves no cutting whatever, no searching for a collapsed vein, no freshened knowledge of anatomy, no tying in a cannula, no cannula at all, in fact. All the appliances needed are such as to be right at hand (it can reasonably be assumed) in nearly every instance. The solution has already been spoken of. The instruments are three: an ordinary Davidson's syringe; an ordinary soft rubber catheter, or a small rubber drainage-tube; an ordinary hypodermatic needle—large size preferred, though this is not essential.

Even if our patient is pulseless at the wrist we can almost to a certainty feel the femoral beating just below Poupart's ligament. Now take the needle—not as yet attached to the catheter—and push it directly into this artery, going slowly, until bright-red blood is seen to well up from within the needle. (As the artery here is large enough to carry a lead-pencil, the needle will not easily miss it, with a little care.)

As soon as the arterial blood is seen in the needle, slip over its base the catheter—already attached to the syringe, the nozzle of which has entered the catheter at the eye, and both being filled with the warm salt-water—and tie a thread tightly about the catheter, securing it to the base of the needle.

Now, holding the needle in place firmly and steadily, pump the fluid directly into the arterial current. To avoid possible pumping of air by an old or leaky syringe, make an abundance of the salt water, and keep the entire syringe, with the hand working it, beneath the surface.[1]

That is the whole story; and how very simple, how very easy! A Davidson syringe is to be had in almost every home. Every doctor carries, or should carry, if out of the city, a soft catheter and a hypodermatic syringe. From the moment the determination to use saline infusion is reached, until the moment that infusion is actually entering the blood-current need not average five minutes.

If men prefer a simple to a comparatively complicated thing, otherwise of equal merit, then will they, I must

[1] William Hunter: Third Lecture on Transfusion, delivered at the Royal College of Surgeons. British Medical Journal, p. 309, August 10, 1889.

[1] It is hardly necessary, perhaps, to remark that an assistant's fingers pinching the tube during emptying of the bulb will prevent regurgitation, if the valves leak.

believe, prefer this method to a cutting operation, with searching for a small and collapsed vein, tying-in of a cannula, etc.

Should it be objected that this plan injures a very important artery, I would reply, that this is decidedly a lesser evil of those which confront the patient dying from loss of circulating-fluid.[1] Furthermore, I have used this plan upon the human subject, saving the patient's life, as will presently be detailed to you, and with no subsequent annoyance whatever regarding the femoral artery.

A further advantage of this technique is the fact that thereby it is difficult to make the otherwise common error of throwing in the injection-fluid too fast, suddenly overwhelming the tired heart. Until one has tried it, one hardly realizes how much the intra-vascular pressure will obstruct the inward flow through the needle, even in a patient with a badly flagging heart. There will be so much resistance that it will seem as if the needle *must* be plugged with a clot or some other foreign body; so slowly, in spite of vigorous pumping, does the stream pass in. And yet in the course of a half-hour of steady work a pint or more can be made to enter.

Reflecting that occasionally the Davidson syringe may not be promptly obtainable, I have experimented with this plan upon the dog, using gravity as a force, by means of a fountain-syringe. If the reservoir be elevated about six feet, it will succeed perfectly well. If much lower than this, the intra-vascular pressure may still be enough, after even a severe bleeding, actually to force the arterial blood *up* the needle and into the tube, instead of the reverse!

Although during and after a considerable bleeding the arterial tone may be maintained by reflex action so as to equal or perhaps for a time exceed the normal blood-pressure, yet when the bleeding is carried to faintness the diminished cardiac vigor would result in lowered pressure. Such loss of blood as would require saline infusion would in all likelihood be accompanied by faintness; and consequently, if the method by gravity be used, the reservoir need hardly be higher than the altitude needed to overcome the average pressure in the unbled femoral, which is in man about one hundred and twenty millimetres of Hg. It is estimated that a pressure of 220 mm. of Hg. may *possibly* be found in the unbled human carotid. For the lower, or average, pressure just given, the equivalent in a capillary column of normal salt-solution (6 to 1,000) would be a height above the blood-vessel of 1.626 m., or rather more than five feet; for the possible higher pressure named, 2.71 m.

Let me here remark that I am indebted to Professor John G. Curtis, of the College of Physicians and Surgeons of New York, for many courtesies; who also in the following experiments, as well as many others, in different lines, made during the past winter and spring, kindly put his physiological laboratory and its appliances at my service.

On May 15, 1891, I operated, Dr. F. J. Brockway assisting, on a dog weighing beforehand 10.4 kilos (22.73 pounds avoirdupois). Three hundred cubic centimetres of blood were taken from the right common carotid. Thereafter his pulse could only be felt in the femoral. Then, with an ordinary hypodermatic needle inserted into the femoral artery, we injected the same amount of warm, normal salt-solution, using the technique just described. Instead of a Davidson, a fountain-syringe was employed; the level of the fluid in the bag being five feet four and a half inches above the artery. It required fifteen minutes for the 300 c.c., to enter this dog's circulation.

If in dogs a rule which applies to humanity holds good, namely, that the quantity of blood equals about one-thirteenth of the bodily weight, then this dog had, before bleeding, about one and three-fourths pound of blood. As 300 c.c. (about ten ounces) were drawn, this would be proportionally equivalent to a loss (and subsequent replacement by other fluid) of nearly two quarts from a man weighing, before bleeding, one hundred and fifty pounds.

I have with me to-day, for your inspection, a very interesting kymographic tracing by the mercurial manometer, taken from another dog upon whom I made a similar experiment, but for a somewhat different purpose. This was to test the effect of *extremely hot* saline infusion, as distinguished from the same fluid used at the temperature of the body.

Whoever has seen cases of cardiac failure upon the operating-table, whether from anæsthetics or from other causes, knows that surgeons rely much for resuscitation upon the application of almost scalding hot wet cloths over the heart. As in many such instances the patient is devoid of reflexes, being completely anæsthetized, I must believe that the undoubted stimulating effect of these applications is in such instances due to the direct extension of the heat until felt by the cardiac ganglia.

Whoever has noted the vigor with which unstriped muscle everywhere reacts to the use of heat—for example, the much stronger and decidedly more permanent uterine contractions which result from hot post-partal injections, as opposed to cold ones—must believe it probable that such unstriped muscle, forming as it does a most important tunic of the blood-vessels, would be greatly aided by *hot* saline infusion in regaining its lost tone. Perhaps, too, the central sympathetic centres would feel and respond to this stimulus.

Now, since a more vigorous cardiac action, accompanied by a somewhat restored vascular tone, would go far toward recovery, both from hemorrhage and its attendant shock, I have felt that the experiment was well worth trying.

A priori, it would seem safe to employ this salt-water as hot as the hand can possibly bear (which is about 49° C., 120° F.), since globulin only coagulates at 70° C.[1] (158° F.), and serum-albumin at 72° C.[2] (162° F.), or about forty degrees F. hotter than the hand can support.

On May 15, 1891, I operated[3] on a large dog, weighing before bleeding, 16.77 kilos. On the 1 in 13 hypothesis his normal weight of blood would have been 1,290 grammes, or (allowing for specific gravity of blood) about 1,222.75 c.c. The cannula of the Hg. manometer was inserted into the right carotid. The right femoral was used for bleeding, the left femoral for injection of the hot salt-solution. Professor Curtis superintended the working of the kymographic needle. Dr. F. J. Brockway assisted me. We drew 563 c.c. of blood. This was a tremendous loss, nearly equal to one-half the total amount the dog possessed. Now, 250 c.c. of the normal salt-solution were slowly thrown in, at a temperature of 120° F. This was less than half the amount of blood lost, and yet the effect of its introduction upon the cardiac vigor, vascular contraction, or both, was striking in the extreme. As evidenced by this kymographic tracing, herewith presented to you, the pulse seemed almost as powerful for the time being as before a drop of blood had been lost.

Subsequently a further bleeding of 470 c.c. was permitted; now the loss being one of blood mingled with salt-solution, of course. In attempting to replace this

[1] In this connection it is worthy of note that a recent method of treating aneurism inoperable by pressure, ligation, or other usual plans, and advocated by Macewen, the Glasgow surgeon, is *needling*. Professor J. A. Wyeth, of this city, operated upon an aneurism of the arch of the aorta by this plan at the Polyclinic Hospital a year ago. He inserted into the diseased vessel thirteen needles, with one of which he lightly scratched the opposite wall of the sac. All were left in place twelve hours. Ten days later thirteen needles were again inserted, and left twelve hours. The same treatment was repeated a third time, after another ten-days' interval. Dr. Wyeth reports the result at the present date as favorable. The sac is distinctly smaller.

If a diseased arterial wall will safely bear such needling as this for twelve hours, and repeatedly, it would seem a fair inference that a sound artery may without serious hurt bear a single needle for a single half-hour.

[1] Kirke, 11th edition, p. 846. [2] Dalton, 7th edition, p. 80.

[3] In both this and all experiments on animals I have used morphine enough to prevent suffering.

loss once more by hot saline injection, a mistake, a most interesting and instructive one, was made. Dr. Brockway and I each supposed that the other had added the salt to the hot water, for the fresh injection; whereas, in fact, neither had done so. And within a minute after receiving a considerable amount of this plain water injection, the animal died.

On May 17, 1891, I was given an opportunity to use in actual practice the points upon which I have dwelt in the last half of this paper. The patient, Mrs. L——, was a primipara, well formed, healthy, and with no previous indication of a tendency to the frightful flooding from which she suffered after delivery. Her physician is Dr. Howard Gillespie Myers.

He states that labor began at 9 P.M. on May 16th. The first stage was completed by midnight. Pains continued strong, and the baby was born at 2 A.M. Uterus contracted well, and in half an hour the placenta was expressed, by Credé's method, with ease. Bleeding was not unusual in amount thus far. A drachm of fluid extract of ergot was now given her. The doctor held the fundus uteri for some time. He remained at the patient's side, being anxious at the frequency of the pulse, which from the birth continued to be about one hundred. At 3.30 A.M. moderate hemorrhage began. Once more he took firm hold of the uterus, finding it doughy and soft. Manipulation led to contraction, with a gush of blood; followed by relaxation again. Ice over the fundus proved useless. Next, two or three quarts of hot-water douching, intra-uterine, were employed; followed by contraction, but only a temporary one again, after which the steady outpour of blood went on. Dr. William D. Bell and Dr. George W. Leonard were called in. Several hypodermatic injections of ergot were made. An intra-uterine application of a cotton pledget soaked in vinegar was tried; result, same as before—a temporary contraction, then the continued free flow again. The foot of the bed was elevated, the extremities tightly bandaged to supply the brain and heart with more blood, and another hot intra-uterine douche was given, this time containing perchloride of iron. After this there was no further bleeding; Dr. Myers remarks that there could not well have been, as the patient seemed completely exsanguinated. For some time before I was sent for, and arrived, the patient had been unconscious, in muttering delirium, and the whole surface deathly cold.

When I saw her she looked moribund. Nothing at the first glance showed life save irregular gasping for breath, and the occasional delirious mutter. She was too weak to show restlessness. The skin was covered with cold sweat, the features pinched, the pupils dilated, the eyes looking glazed. Undoing the bandage on one extremity I found no pulse at the wrist, though the heart could faintly be heard beating very rapidly, and the finger just below Poupart's ligament could barely detect the artery. I do not think it likely that she could have lived an hour longer without saline infusion or else transfusion; and Dr. Myers shares this opinion.

As quickly as possible the normal salt-solution was prepared, *as hot as the hand could tolerate*. The hypodermatic needle was inserted in the right femoral artery, just below Poupart's ligament. Feeble as she was, a thread of arterial blood came slowly up the needle. The catheter was attached, and pumping by the Davidson syringe began. A full pint of the hot salt-water was thrown slowly into the artery, taking nearly half an hour. The proof that it did enter the current, and was not deposited in the connective tissue about the vessel, is the fact that no swelling was produced. A pint, or even a quarter-pint, of water injected into the connective-tissue spaces under the skin at any one place would produce a very prominent swelling.

During the operation the heat of the solution was maintained by keeping the vessel containing it in another of yet hotter water, to which boiling water was added as required.

Before this injection was half finished we were delighted to notice an evident improvement in the heart's action. By the end of the half-hour a faint pulse at the wrist was noticeable, and actually the delirium had ceased.

An interval of a half-hour was now allowed before further infusion, during which time she was kept well surrounded by hot applications (including a hot-water bag against the heart), received a hot beef-tea enema, and several small hypodermatic injections of strychnine sulphate and atropine sulphate, the former as a heart tonic, the latter as a respiratory and sympathetic stimulant. Also one small injection of equal parts of tincture of digitalis and tincture of strophanthus was used. Whiskey was freely introduced at many points by the needle.

At the end of this period she received a second full pint of the very hot normal salt-solution. Differing from the first pint, this was thrown into the connective tissue of the thighs at some five or six different points. As fast as a moderately large swelling was produced, a fresh place was chosen, and one of the doctors briskly rubbed and diffused this tumor in a centripetal direction, and with vaselined hands. She was now conscious, and complained of the pain caused by these manipulations.

Briefly, from this point she began to rally more rapidly, and in a few hours was out of danger so far as her circulation was concerned. But for a number of days Dr. Myers hardly left her bedside, as her stomach needed the most assiduous care, almost everything being rejected. Rectal alimentation supported her during this period. When able to retain food *per os* once more, she made a speedy recovery. Her summer was spent in the Adirondacks, and to-day she is strong and well.

My reason, in this case, for varying the technique while injecting the second pint (by using the subcutaneous cellular tissue instead of the artery) was that I thought the circulation then sufficiently strong to absorb the solution into itself; and I did not wish to pierce the artery needlessly.

It would seem that if a patient requiring infusion were not in such extremely bad state as my case was at first, this latter method might do very well; but if a prompter and more certain effect be needed I should always prefer entering the artery with the needle.

At the time of operation upon this case I had never heard of saline infusion being employed by any other than the usual (that is, intravenous) method, with its cumbersome accompaniment of venesection, tying in of a cannula, etc. But shortly afterward I read in the *International Medical Annual* for 1891 a statement that subcutaneous injections of a normal salt-solution have been successfully used after post-partal hemorrhage in the Dresden Lying-in Hospital. The technique is not given either in the article or its bibliography.

Of course, *transfusion*—of whipped blood, into the subcutaneous tissues—has long been known. Casse, of Belgium, in 1879, experimented by this plan. As late as 1887, in Germany, H. von Ziemssen advocated it, using a large syringe and needle of abundant calibre, the patient being under chloroform meanwhile, and the blood being diffused by very vigorous rubbing.

As has been elsewhere remarked in this paper, *blood*-injection for hemorrhage, by this or any other plan, has now practically been dropped.

So far as the writer has been able to discover, the extremely simple and ready method of saline infusion herein described—that is, using an ordinary hypodermatic needle in an artery, etc.—has not heretofore been published; nor the suggestion of the value of a high temperature in the injected fluid, instead of that normal to the body.

Professor Helmholtz says that he has worked to gain knowledge for himself and not primarily to help science.

Opium Smoking is bringing ruin upon hundreds and thousands of families in India, according to a missionary who has been investigating the matter in Brazil.

THE TANNATE OF MERCURY IN THE TREATMENT OF SYPHILIS.[1]

By CHARLES W. ALLEN, M.D.,

MEMBER OF THE NEW YORK DERMATOLOGICAL SOCIETY; MEMBER OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, ETC.

MR. PRESIDENT AND GENTLEMEN: We are inclined, I think, to look upon ourselves at the present day with no small amount of satisfaction, in the consciousness of having settled the question that mercury is the drug above all other drugs with which to combat and cure syphilis. After many years of, at times, hot and acrimonious controversy, all but a weak, though strong-headed, minority have been convinced that there is not, and some have gone so far as to believe that there cannot be, anything better. While believing most thoroughly in the value of mercury, a value scarcely equalled by any other drug in any other disease, it seems to me not beyond the possibilities, and I might even say probabilities, that the syphilographer of the future will look back and down upon us of to-day with much the same feelings which possess us when we think of our confrères of the sixteenth century, who puffed themselves up with pride in the discovery that nothing could compete with guiac as a specific for the pox. As the twenty-and-odd-century physician injects a little anti-syphilitic lymph beneath his patient's skin, he may feel for us as we now feel for those who have gone before. However, gentlemen, we are still in the nineteenth century and mercury is the best we have, and we must make the best of it. The only question which exercises us at the present time is in what manner to get the most benefit from its employment with the minimum of danger and discomfort. This is the question touched upon in the brief communication which I have the honor of bringing before you to-night, and one most worthy of our consideration. We know how powerful and dangerous a poison mercury is, still we are accustomed to deal with deadly drugs, and the knowledge that harm may come from their improper use does not detract in the slightest from our appreciation of their great value, or deter us in any way from employing them to accomplish our ends. It is probable that we do not yet know all there is to be known about the use of mercury, and it is certain that the drug is still much abused. I do not refer to the abuse heaped upon it by the non-believers, but the mal-use of the remedy which gives a certain warrant for their derogatory words. Compared with the days when it was believed that large doses should be given, and salivation was thought beneficial, the mercurial affections of to-day are mild and few, still accidental and unwelcome ptyalism is of altogether too frequent occurrence, and it too often happens that symptoms referable to an excess of mercury are mistaken for evidences of the original disease and the much-enduring patient is submitted to a further dosing.

Hydrargyrophobia is not an unusual affection among old syphilitics, and unfortunately is one which had some excuse for existing. A man who had been for a short time under my care recently shot himself, not, so far as I could learn, because he despaired of a cure of his disease, but because he conceived the idea that his troubles were the result of too much mercury. In this instance there was probably no foundation for his belief, although he had been treated by many different men, and had undoubtedly taken much medicine.

The practical question which first suggests itself to us in considering a new preparation is whether there is a demand or desire for it, whether those we already have at our command are not ample.

Syphilis cannot be regarded as an exception to the general rule in medicine, for so great is our desire for improved methods of treatment, so strong is our faith that the future holds better things in store, and so firm is our conviction that present means of cure are inadequate, that experimenters are constantly at work discovering new remedies, and despite the vast number which are being constantly brought forward, there are always to be found those who will give them fair clinical trial provided they have been properly placed before the profession.

It is due to this evident dissatisfaction with older methods, and the results obtainable with the old-time remedies, that many excellent substitutes for them have been discovered, and the spirit which prompts the clinical investigator to make trial of new remedies as they are introduced has saved many a valuable one to mankind which might otherwise have been lost. The disappointment which follows the trial of a hundred promising novelties does not weigh against the discovery that a single one is an improvement on those we have had before.

That a feeling exists that the mercurial preparations now most commonly employed are not wholly satisfactory is very evident from the fact that new ones are being constantly elaborated, and from the numerous attempts to devise a method of hypodermic medication which shall take the place of the older plans of treatment.

The inunction cure is highly esteemed by all who have had much experience with it. Mercury is in this way quickly introduced into the system. The dose is however uncertain, some skins absorb more rapidly than others and ptyalism is often produced quite precipitously. In those having delicate skin a dermatitis, folliculitis or even an eczema may be caused by the frictions. On account of its uncleanliness it is found impractical to employ it in certain cases. Decided objections are likewise to be made against the various forms of mercury given by the mouth. Of these calomel is especially prone to cause salivation in the adult and diarrhœa in children. It also often produces colicky cramps and various digestive derangements. Corrosive sublimate, which is much employed, is open to the same disadvantage and is capable of exciting severe gastro-enteritis. The protiodide, which is probably the most largely employed form of mercury in this country, has, in addition to the above disadvantages, the further one that many object to the use of any iodine preparation in early syphilis and so reject the proto- as well as the bin-iodide. Some patients cannot take the protiodide at all, or only in such small dose that its use has to be abandoned. It often proves so irritating in the intestinal canal that constant watery diarrhœa follows its use. It is very unstable and prone to give up metallic mercury, or change into the biniodide. I mention these objections because it is with the protiodide especially that the tannate enters into competition.

The hypodermic injection of mercury has not become popular here, and I doubt if it ever will develop into a common method of treatment for Americans, but will rather be reserved for certain special cases. The stomach then remains the organ through which mercury must, in the main, be introduced into the system.

I think the objections given above to the more commonly employed mercurials are sufficient to warrant a search for something better.

Dr. Lustgarten, whom we have the honor of having with us to-night, was rewarded in such a search by discovering the hydrargyrum oxydulatum tannicum, or tannate of mercury, while working in the laboratory of Professor Ludwig in Vienna. The first published account of this preparation is found under the title "Ein Neues Quecksilberpräparat" in the *Wiener Medizinische Wochenschrift*, Nos. 11–14, 1884. Here the author describes the tannate as a dark yellowish-green powder, without taste or smell, which is not soluble so long as it is not decomposed. This is only slowly attacked by hot hydrochloric acid, but is quickly destroyed and decomposed by nitric, the fluid turning brown. If we pour upon a specimen of the powder even a very weak caustic or carbonate alkali a mouse-gray muddy deposit forms.

[1] Read before the New York Academy of Medicine, December 10, 1891.

Seen under the microscope this is found to be made up of exceedingly small granules, which in part are seen to be in active vibratory motion (*molekular bewegung*), which cease on the addition of an alcoholic solution of iodine, forming characteristic red and yellow crystals of iodide of mercury. If this deposit is washed by decantation it will amalgamate a shining piece of gold, showing it to be metallic mercury, of which numerous analyses have demonstrated the tannate to contain about fifty per cent.

The simplest mode of preparation, according to Leblond, consists in precipitating a solution of nitrate of mercury by a solution of tannate of soda in slight excess. A yellow precipitate is thrown down which rapidly changes to a greenish hue. This is the tannate of mercury. I pass for inspection a specimen of Merck's in crystal form and another of the powdered drug. The precipitate is washed by decantation until the decanted water no longer shows any precipitate by the acetate of lead, and no longer changes blue litmus paper. The precipitate is then filtered and allowed to dry in the open air.

Lustgarten found in seven cases evidences of mercury in the urine twenty-four hours after the tannate was administered, and Borowski found it excreted on the second day of treatment.

Petrini has shown by analysis of the saliva that at certain times the elimination by the buccal mucous membrane is more active than by the kidneys, and the elimination through the mouth is greater the longer the patient has been under treatment by the tannate, and the quantity as compared with that escaping in the urine is also greater.

To secure the secretions pilocarpine was injected hypodermically, and although the salivary flow was rendered very abundant, scarcely any perspiration took place. What little product of the sweat-glands was secured failed to show any mercury by chemical analysis. Up to the time of the introduction of the tannate only inorganic preparations, the iodides and chlorides, and metallic mercury had been known for internal use. The discovery of the tannate opened up a new field for the development of organic compounds, and following its introduction came in quick succession the formamide, asparagine, carbolic, salicylic, thymolic, benzoic, and other acids, which have become more or less favorably received, especially for hypodermic use.

About five years ago a representative of a leading pharmaceutical firm brought me a sample of tannate of mercury pills, and asked me to give them a trial in the hospital. They had not yet put them on their list and wanted the results of clinical experience before presenting them to the profession. Up to this time I had made no trial of the new preparation, but promised to do so, and report my results. I was furnished from time to time with a liberal supply of the one-grain pills, and after observing their effects for some time on a number of patients I made a verbal report of my favorable impression. The reports of others who had tried the remedy in the same way being also favorable, the firm began manufacturing the pills.

My experience with the tannate has been rather limited, extending to probably less that fifty cases, of which records of only thirty-five are available, and I do not propose to weary you by relating even these.

However, I think I have had sufficient opportunity to watch the effect of the drug to enable me to draw certain conclusions as to its value, and these I will give as briefly as possible. I have come to regard the tannate as an exceedingly efficacious preparation, showing its beneficial action on syphilitic products often in a remarkably prompt manner.

As a rule it does not disagree in any way with the patient, and is free from injurious effects upon the stomach and the processes of digestion. It does not affect the salivary secretion more than the protiodide.

In some cases, however, it is quite capable of causing stomatitis, even in doses which have been considered free from this danger. In several cases slight stomatitis has come on after a daily dose ranging from three to six grains, and the dose has had to be decreased in a number of instances where not over three or four grains were being taken daily.

I wish to emphasize this feature of treatment by the tannate because my experience differs from that of others and from the early observations of Dr. Lustgarten. Thirty centigrammes, or five grains, daily produced no such effect in his reported cases. I will say, however, that, so far as I can judge, the tannate is not more apt to cause salivation in dose of four grains daily than is the protiodide in dose of one grain, and when we consider that the tannate contains fifty per cent. of mercury and the protiodide over sixty-one per cent., the difference in effect is quite marked. I have had two instances of severe ptyalism, for which, however, the tannate should not be wholly blamed.

Miss H——, aged nineteen, came to my office the latter part of November, 1889. She presented a chancre of the lower lip which had existed for two weeks. On December 3d there occurred an extensive macular eruption, preceded by several days of fever, swelling of the knees, pains in the legs, and severe headache. The glands beneath the jaw on the right side were enormously enlarged. Up to this time there had been none but local treatment. I now prescribed one grain tannate of mercury pills and instructed the patient to take one three times daily for three days, then two pills at each dose for three days, and then one pill again at a dose until the next visit. On December 18th the patient returned suffering from ptyalism, and on inquiry I learned that she had mistaken my instructions and taken three pills thrice daily for the first three days, making twenty-seven grains, then two at a dose for an equal period, and three grains daily for the balance of the time, making an aggregate of about seventy grains in the fortnight. Her syphilis had been decidedly improved. The chancre had almost disappeared, the masses of glands had melted down considerably, and the eruption was fading rapidly, and by the 24th had almost entirely gone, and by this time the chancre was also well. There was no question as to the marked effect of the drug upon the lesions for they had all been especially severe. The pills were stopped at once and treatment directed to the salivation, which proved very annoying and did not get well for over two weeks. The bowels had not been at all affected, in spite of the decided effect upon the mucous membrane of the mouth.

The second instance occurred in a man who had been for some time rubbing blue ointment into the palms and soles. One-grain pills were begun on June 13th, and on the 19th, after taking only eighteen grains, salivation was noted. Here I attributed the effect on the glands of the mouth to the local inunctions quite as much as to the tannate.

I have given the tannate in several instances in daily dose of six grains for a considerable time without bad effect and have doubled this dose, giving four grains three times daily for a day or two with impunity, but I would not advise these larger doses, unless the increase has been gradual and carefully watched. In eight instances I have increased the dose as much as possible on account of disfiguring eruptions on the face in women, a class of cases in which a speedy removal of the lesions is always desirable. In two cases the tannate was combined with local treatment by means of emplastrum hydrargyri, an expedient always useful and often necessary before the infiltrations will give way. In a number of cases diarrhœa has been produced even in dose of three grains daily. I have a patient now under treatment who can take half a grain for months at a time, while one-grain doses give him looseness of the bowels and abdominal cramps. This patient has had no symptoms since the early secondary

stage, so that the larger doses have not been considered necessary.

As to the mode of administration, the tannate may be given in its pure state as a powder alone, mixed with sugar, licorice powder, and sugar of milk, or, as I have occasionally done where diarrhœa has come on, combined it with a few grains of tannin. Dispensary and hospital patients take the powder on the tongue without objection. For children it can be given in milk. My first and most extended experience has been with the gelatine-coated pill, but as these have till recently only been obtainable in size of one grain I have been having them made extemporaneously with extract and powder of licorice. Kaposi, in his recent work on syphilis, says that the tannate has been used in his clinic by the hypodermic method. A Pravez syringeful of the following, injected six or eight times, constitutes a cure:

℞. Hydrarg. oxyd. tannic..... 20 parts
Paraffin liq., or,
Olei vaselini..... 10 parts

It is said that this causes scarcely any pain, and is not followed by abscess. I have had no experience with this manner of using the tannate. By the mouth it is best given an hour after meals. An excess of greens, salads, and fruits should be excluded from the diet if there is much tendency to diarrhœa and cramps. As it has been pointed out that even weak alkaline solutions decompose the tannate, mineral waters should not be taken near the time for giving the drug.

As to the dose, I am more in favor of the half-grain than the grain for continuous employment three or four times a day. These half-grain doses can be multiplied as symptoms require it up to the point of toleration as indicated by tenderness of gums, or more rarely diarrhœa. As the symptoms disappear I usually decrease the dose to the half-grain standard, and keep the patient at that for months continuously, or with occasional short breaks. Sometimes this dose seems sufficient. A case of chancre of the tonsil with marked secondary manifestations in a young married woman was very well controlled without increasing this dose.

Dr. Lustgarten has pointed out the possible danger of giving the iodide of potassium at the same time with the tannate. In several instances I have given patients both drugs, with an interval between the doses, without producing any unpleasant effects. In one case, however, an obstinate diarrhœa did follow, but I could not attribute it to the combination, for at other times the tannate alone produced the same effect, and once the potash had to be stopped and the tannate continued, not on account of diarrhœa, but an iodide acne. This was a case of destructive gumma of the nose, in which local means were also added to save the organ. The tannate and iodide seemed to act well together here, but I cannot recommend it as free from danger.

I have tested the solubility of a variety of pills and tablet triturates which I have had in my office for a year or more. With one exception (a compressed "friable" pill, which was so hard that long soaking in water and considerable force were necessary for its disintegration) they broke down readily and the mass examined under the microscope showed the minute globular bodies in molecular motion described by Dr. Lustgarten. I have also examined different samples of Merck's tannate in the granular and powdered state, and found it always to act the same under reagents and appear about the same under the microscope. I mention this because Dr. Keyes says, in the last edition of his book, that the different preparations vary greatly in their effects in his hands.

Undoubtedly the drug employed should be procured from some reputable firm. It is not claimed for the tannate in any way that it will shorten the time of treatment, or that it has a power over other preparations of preventing relapses. I do not expect the tannate to wholly take the place of any other preparation of mercury. I do not use it to the exclusion of several other forms of mercury. I believe in inunctions, and usually begin treatment with a course of rubbings. I also favor a mild continuous course of hydrarg. cum cret. in certain cases, but I do prefer the tannate to the protiodide so far as my experience with it goes.

The advantages which it seems to me the tannate possesses over other preparations of mercury given by way of the stomach are: 1. That it is stable, does not decompose, dissolve, or change readily. 2. It is quickly assimilated and quickly eliminated. 3. A relatively large quantity of mercury can be thus given with safety, and a relatively large proportion is absorbed, as shown by quantitative analysis of the urine. 4. It is not so prone in my experience to cause salivation as calomel and the protiodide. 5. It is not so likely to cause diarrhœa and gastro-enteritis as the bichloride and protiodide. 6. It is well tolerated by children in dose of 0.02 to 0.04 per day (gr. ⅓ to ⅔). Monti speaks well of it and finds it does not affect the digestive organs. 7. Being unchanged in the stomach and only decomposed after it enters the alkaline contents of the small intestine the stomach escapes any possible irritation, and as we calculate to introduce something like two ounces of mercury by this organ during an antisyphilitic course, it becomes very necessary to give it in such a way as not to upset the stomach, and hence our calculations.

LITERATURE.

The literature of the subject is rather sparse, especially in this country. Writings which I have found are:

Lustgarten: Wiener Medicinische Wochenschrift, Nos. 11–14, 1884.
Pauly: Berliner Klinische Wochenschrift, No. 47, 1884.
Borowski: Russkaja Medicina.
Leblond: Gazette Hebdomadaire de Médecine et de Chirurgie, 24, 1885.
Leblond: Journal de Médecine de Paris, No. 24, 1886.
Dornig: Wiener Medicinische Wochenschrift, No. 27, 1885.
Schadeck: St. Petersburger Medicinische Wochenschrift, No. 6, 1887.
Petrini: Transactions du Congrès International de Dermatologie et de Syphilographie, Paris, 1889.
Parsons: Medical Times and Gazette, December, 1885.
Monti: Archiv für Kinderheilkunde.
Balzer, Finger, Kaposi, Keyes, Lang, Lesser, Neisser, Taylor, in recent handbooks, etc.

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Queer Things in Literature Concerning Doctors and their Doings.—In the *Revue des Deux Mondes*, June 15, 1877, according to a French journal, the following radical operation for croup is mentioned in the "Mari de Suzanne:" "She told me in a few broken words that Pierre had an inflammatory throat trouble after my departure. . . . Félicien cared for him from the first. . . . Incision of the artery (*sic*) became necessary, followed by a fatal issue, the instant the lips were applied. I listened speechless, paralyzed by emotion." No wonder! The *Mercredi médical*, October 28, 1891, quotes from a French novel, which treats of one Dr. Livournet, who "pulls Xavier through an attack of croupous scarlatina, and then cures Gilberte of abominable meningitis." Later, in the same book, is noted a remarkable phenomenon: "At the bottom of this glass the chloroform had left its opium-tinctured and unsavory deposit." Sometimes botany, as well as materia medica, is astray in secular literature. Mendes, in "Zo'har," speaks of the aconite plant, with its blossoms like white umbrellas. "Umbrellas!" Never. And aconite is white so seldom. Why not say in blue clusters? It is almost as poetical, and much more truthful.

Urticaria of the Throat.—Dr. Laveran reports the case of a patient of thirty years who had each morning crops of urticarial wheals on the hands, feet, and shoulders, and finally presented a crop localized in the throat, with œdema of the uvula and pillars of the tonsils, attended with dysphagia and dyspnœa. A similar condition was seen by Dr. Sevestre in a mother and son after the ingestion of mussels.—*Journal de Médecine*, No. 20, 1891.

MEDICAL LEGISLATION IN 1891.

By HENRY A RILEY A.B., LL.B.,
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Alabama, Arizona, Arkansas, California, and Colorado.—There appear from time to time in the medical journals articles giving summaries of special laws enacted by the various State Legislatures, but the great body of legislation interesting to the profession is not often gathered together so that an intelligent opinion can be formed of the influences at work in the different States to elevate medical practice and instruction and to guard the public health.

It seems, therefore, likely that a general statement of the legislation actually placed on the statute-book in 1891 will be of interest. Some of the States have not yet published the laws recently passed, and consequently the summary will not be absolutely complete, but in the case of the great majority of the States holding sessions of the Legislature the laws are now accessible, and can be presented.

It may be said in a general way that the past year has been a period of great activity in medical legislation, and many of the States have been endeavoring to secure a higher grade of medical instruction and to place greater safeguards about the admission to practice. There have also been in several of the States laws passed regulating the practice of pharmacy and dentistry. In collateral matters affecting the care for the insane and criminals, and the preservation of public health, there has been quite a body of new legislation.

In considering the subject it will be well to take up the different States in their alphabetical order.

In Alabama there was no legislation in regard to the practice of medicine, but there were some laws passed of interest concerning medical instruction. An appropriation of $10,000 was made for the Mobile Medical College, which is a department of the State University, to obtain new appliances, apparatus, and a laboratory, and to compensate the faculty for services rendered in teaching non paying students. The act states that it is to secure these objects and "to maintain said college and its facilities on a par with the most advanced colleges of the country."

It was also enacted that physiology and hygiene were to be taught in the public schools as regularly as other branches, and with especial reference to the nature of alcoholic drinks and narcotics and their effect upon the human system. No teacher was to receive a certificate in the future who had not passed an examination in these branches.

The convict lease system in the South is generally felt to be a disgrace to civilization, and many efforts have been made to improve it or to abolish it altogether. It is of interest, therefore, to note that Alabama has appointed a commission to consider the means of improving the penitentiary and convict systems of the State and to prepare a bill providing for a new and complete convict system.

It was declared to be a misdemeanor for anyone to sell or give to any minor under eighteen years of age any cigarettes, cigarette tobacco, or cigarette paper, and the penalty was fixed at a fine not less than $10 and not exceeding $50, or imprisonment not to exceed thirty days.

A Quarantine Board of Mobile Bay was established, and an appropriation made for erecting a suitable quarantine plant with the most modern appliances for disinfecting and fumigating.

The Alabama Insane Hospital was authorized to spend $12,500 for farm lands and to erect buildings for the accommodation of persons who might be benefited by out-door work.

The Alabama School for Negro Deaf-Mutes and Blind was established at Talladega, and $12,000 appropriated for the erection of buildings.

There were numerous bills passed prohibiting the sale or giving away of liquor within distances varying from one-half a mile to five miles from specified school-houses or churches, but no exemption was allowed, as is the case in some other States, for prescriptions by physicians.

In Arizona the Territorial Legislature provided that the University of Arizona should have a Department for the Education of the Deaf, Dumb, and Blind, and directed the Board of Regents to make suitable provisions for their instruction according to the most improved and modern methods. It would seem, however, that the demand for such a department was not very pressing, as it was ordered that the law was not to go into effect until at least five residents of the Territory had made application for education.

A general law was passed providing for county hospitals, but this was to be done under a contract system. The care of the indigent sick, including medical attendance and medicines, was placed in the hands of the County Boards of Supervisors, who were to advertise for bids. Each bid must specify distinctly the amount to be charged for each day's attendance upon the indigent sick, including medical aid, food, lodging, and clothing, and the successful bidder was to give a bond of $5,000.

Persons afflicted with cholera, yellow fever, or smallpox were not to be allowed in the county hospitals, but the Boards of Supervisors were authorized to make temporary regulations for the care of such cases.

It was declared to be a misdemeanor for anyone to sell, give, or furnish any cigarettes to minors under sixteen years of age, and the punishment was fixed at a fine of not less than $10 and not more than $100.

In Arkansas the condition of medical ethics may be imagined when it is found that the Legislature ordained that physicians employing "cappers" or "steerers" should have their licenses revoked. It is understood that the disgraceful competition between physicians at the Hot Springs for new arrivals was the reason for the passage of this law. The act mentioned eight instances of unprofessional conduct which would warrant the revocation of the license. They are as follows:

1. Procuring or aiding and abetting in the procuring of criminal abortion.
2. Employing or using what are known as cappers, steerers, or drummers, or the subsidizing of hotels or boarding-houses to procure practice.
3. The obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured.
4. The wilful betrayal of a professional secret to the detriment of a patron.
5. All advertisements of medical business in which untruthful and improbable statements are made.
6. All advertisements of any medicine or means whereby the monthly periods of women can be regulated or the menses re-established.
7. Conviction of any offence involving moral turpitude.
8. Habitual drunkenness.

If a license is revoked for any one of the preceding grounds the offender may apply for a new license after the expiration of a year, and it may be granted by the Board of Medical Examiners if satisfied of the reformation of the applicant.

A State Board of Pharmacy was established, consisting of five pharmacists who had been engaged in active business for at least five years. Two meetings a year must be held for the purpose of examining applicants, and in the meantime any member of the Board could, at his discretion, issue a temporary license, good until the succeeding meeting.

The Board was directed to register and issue licenses to all persons engaged in the business of pharmacy at the time of the passage of the act.

All graduates of schools or colleges requiring three years' experience before granting diplomas are entitled to be registered without examination.

All other persons desiring to become pharmacists must

be examined, and if the examination is satisfactory to a majority of the Board the certificate must be issued.

If a person not a registered pharmacist conducts a pharmacy, it is a misdemeanor and is punished by a fine not exceeding $100.

The law does not apply to physicians putting up their own prescriptions, nor to articles commonly known as "grocers' drugs," nor to patent medicines. A conviction for the illegal sale of intoxicating liquor and a cessation of business for twelve months will cause the license to be revoked.

There are numerous laws prohibiting the selling or giving away of intoxicating liquor within distances from individual school-houses or churches varying from three to five miles, but they all seem to permit physicians to prescribe alcohol or whiskey in strict administration of medicine. Some of the laws forbid such prescriptions unless the physician shall have previously filed with the clerk of the Circuit Court an affidavit substantially like the following: "I, ——, do solemnly swear or affirm that I am a regular practising physician, duly qualified as such under the laws of Arkansas, and that I will not prescribe, sell, or give away, or cause to be given away, any vinous, ardent, malt, fermented, or intoxicating liquor, or any compound or preparation thereof commonly called tonics or bitters, medicated liquors, or by whatsoever name the same may be called or known, unless it be for actual medical purposes, and not then unless I believe the quantity given or prescribed will be necessary in the proper treatment of the disease from which the patient under my charge is at the time suffering."

The fines for violations of these laws range from $25 to $500.

To engage in a prize-fight with or without gloves, or to act as second or referee, is made a felony, with imprisonment in the State Prison for not less than one year and not more than three.

The Insane Asylum was ordered to be enlarged to accommodate three hundred additional patients, and $85,000 was appropriated for this purpose.

In California an elaborate law was passed regulating the practice of pharmacy and the sale of poisons. After January 1, 1892, it was declared to be unlawful for anyone to conduct a pharmacy or compound prescriptions who was not a registered pharmacist. A registered pharmacist must be either a graduate of pharmacy, a licentiate, or a practising pharmacist.

Graduates must have had four years' experience and have a diploma from a legally constituted college of pharmacy. Licentiates must have had four years' experience and have passed an examination before the State Board of Pharmacy or present satisfactory credentials to the Board. Practising pharmacists are those who are conducting pharmacies at the time of the passage of the act. Every person coming under the last class must present satisfactory proof to the Board before January 1, 1892, that he was engaged in the preparation and compounding of drugs at the time the act was passed.

Within thirty days from date of enactment the Governor was to appoint seven competent pharmacists to constitute the State Board of Pharmacy, and the term of office was to be four years.

The fee for an examination was fixed at $5. The vexed question of the ownership of the prescription is disposed of, but not settled, by the direction that every registered pharmacist should file or caused to be filed all physicians' prescriptions compounded or dispensed in his pharmacy or store. They shall be preserved for two years, and the pharmacist shall furnish a correct copy of any prescription upon the order or request of the attending physician.

The Board, when written complaint is made, is directed to make a thorough investigation into the quality of drugs, chemicals, or medicines, and if the facts justify, to notify the District Attorney of the results.

The act specifies that certain poisons mentioned in schedules A and B shall not be sold without being labelled "Poisons," the name of the article given and that of the seller, and not at all unless the buyer knows their poisonous quality and intends to use them legitimately. In the case of schedule A the pharmacist must keep a register giving date of sale, name and address of purchaser, the purpose, and name of dispenser, and this register shall be open to inspection by the proper authorities and be kept for five years. The schedules are as follows:

Schedule A.—Arsenic, corrosive sublimate, cyanide of potassium, hydrocyanic acid, strychnia, cocaine, and all other poisonous vegetable alkaloids and their salts, opium and all its preparations, except those which contain less than two grains to the ounce.

Schedule B.—Aconite, belladonna, colchicum, conium, nux vomica, savin, cantharides, phosphorus, digitalis, and their pharmaceutical preparations, croton oil, chloroform, chloral, sulphate of zinc, sugar of lead, mineral acids, carbolic acid, oxalic acid, white precipitate, red precipitate, biniodide of mercury, essential oil of almonds.

These sections in regard to poisons do not apply to physicians' prescriptions, nor if the bottle or package contains no more than one dose.

The procuring a false register as a pharmacist is made a misdemeanor, and the penalty a fine not to exceed $200.

The act does not apply to the business of practising physicians who do not keep an open store, nor to an exclusively wholesale business, except those portions relating to the labelling of poisons, nor to proprietary medicines in the original packages. California also forbids the sale or gift of tobacco or its preparations to anyone who is in fact under the age of sixteen, but makes the curious provision that the law is not deemed to apply to an article furnished on a prescription from a physician authorized by law to practise medicine, nor to persons who supply such articles to their children, nor to sales made to minors upon the written consent of the parents or guardians of such minors.

With these exceptions the sale or gift of tobacco is made a misdemeanor and punished by a fine not exceeding $100.

When twenty-five or more persons petition the Board of Supervisors for the formation of a sanitary district, specifying the bounds of the desired district, there must be an election held within thirty days to decide whether the majority of voters desire to have such sanitary district created. If they do, a Board is created which has the power to construct and maintain sewers, to remove garbage, to guard against the spread of contagious or infectious diseases, and to provide for the isolation of persons and houses afflicted with such diseases. The Board has power to enforce its regulations by fine and imprisonment.

A law directs the execution of persons condemned to death within a period from sixty-six to ninety days after the sentence. If the Warden of the State Prison believes a condemned murderer to be insane he can, with the concurrence of the Judge of the Superior Court, summon twelve persons to inquire into the matter. If decided to be sane the Warden must execute the judgment, if insane he must suspend execution until he receives a warrant from the Governor or the Judge of the Superior Court directing execution.

If the convicted murderer is a woman supposed to be pregnant the Warden may summon a jury of three physicians, and the result of the inquisition, if she is found to be pregnant, must be forwarded to the Governor and the execution suspended. When satisfied that the woman is no longer pregnant the Governor may appoint a day for the execution.

A general act provides for a uniform system of county and township government, and authorizes the coroner to hold inquests. He is authorized to subpœna a physician or surgeon to inspect the body, or a chemist to make an analysis or hold a post-mortem examination

of the deceased and give a professional opinion as to the cause of death.

An appropriation of $5,000 is made to send experts to Australia, New Zealand, and other countries to collect and import parasites and predaceous insects for distribution under the supervision of the State Board of Horticulture.

In the Southern California State Asylum for the Insane and Inebriates, the latter may be admitted on the order of a Judge of the Superior Court after investigation by two physicians and other credible witnesses. The commitment cannot be for a longer period than one year, and if not cured within that time the patient must be discharged as a confirmed inebriate. An appropriation of $125,000 is made for additional buildings for the California Home for the Care and Training of Feeble-Minded Children at Glen Ellen, and one of $55,000 for furnishing, etc., at the Southern California State Hospital for the Insane.

In Colorado it is declared unlawful for anyone to practise dentistry or to receive a license from the Board of Dental Examiners unless, in addition to other qualifications presented by the Board, he shall have graduated or received a diploma from a reputable chartered institution where dentistry is taught, or have received a license from the Board of another State.

The act does not apply to certificates to practise dentistry previously, and does not prevent authorized physicians or surgeons from extracting teeth.

Any person administering poison or using instruments with the intention of procuring a miscarriage shall be imprisoned for a period not to exceed three years, and fined in a sum not exceeding $1,000. If the woman dies the person is guilty of murder, unless it appears that the miscarriage was caused by the advice of physicians and with the intent of saving the life of the woman.

Every male person of fourteen years and upward who has carnal knowledge of a female under sixteen years of age, with or without her consent, is guilty of rape, and may be imprisoned for a period not less than one year and not over twenty.

It is also declared to be unlawful for anyone to sell or give cigarettes to any minor under sixteen years of age. The penalty for the first offence is a fine not exceeding $100, or imprisonment not exceeding three months, or both. For subsequent offences the fine may be $200, and the term of imprisonment six months.

A State Board of Charities and Correction consisting of six persons was established. It was given power to investigate the whole system of public charities and correctional institutions, to examine into the condition and management of all prisons, jails, reformatories, reform and industrial schools, hospitals, infirmaries, orphanages, public and private retreats and asylums for the insane, and any and all other institutions receiving aid from the State. All plans for jails, hospitals, and similar buildings shall be submitted to the Board for suggestions, criticisms, and approval before the same shall be adopted by the State, county, or municipal authorities.

An investigation may be made into the condition of any institution, and the Board must make biennial reports to the Governor.

An appropriation of $30,000 is made for a dormitory for girls at the Institution for Education of the Deaf and Blind, and one of $60,000 for the removal of old buildings and the erection and furnishing of a new one for female patients at the State Insane Asylum.

The salary of the State Veterinary Surgeon is placed at $1,500, and he is obliged to give a bond for $10,000 to secure the proper performance of his duties.

The Connecticut and Florida statutes have not been published.

(To be continued.)

Koch is Still Working on Tuberculin, and hopes to make it gradually less and less deadly.

ATROPINE IN HÆMOPTYSIS.[1]

By N. W. SOBLE, M.D.,

ROCHESTER, N. Y.

It is not the object of this paper to discuss nor to name the various remedies that have been used in the treatment of hemorrhage from the blood-vessels of the lungs. To a great extent the use of the remedies has been empirical and not based upon a sound scientific foundation.

Before mentioning the drug to which I would invite your attention, it is necessary to review for a moment one or two anatomical and physiological facts in connection with the blood-vessels of the lungs.

The anatomical structure of the blood-vessels does not differ materially from the structure of the blood vessels of the body in general, excepting that the walls of the capillaries of the lungs are exceedingly thin. We find, however, a marked difference in the nerve-supply of the pulmonary blood-vessels, principally in the vaso-motor system. It is a fact well known to physiologists that the blood-vessels or arteries of the lungs have practically no vaso-motor nerves. No experimenter has ever been able to positively demonstrate the presence of such nerves. It is also quite well established that the tonus of the pulmonary arteries is very slight, and that the pressure in these vessels is very little influenced by nervous stimulation or by changes in the action of the heart, such as affect the systemic circulation.

Sir James Andrew in the last Harveian oration said: "The pulmonary and systemic circulations are in reality independent to a great extent; we cannot judge of the state of pulmonary circulation by the pulse at the wrist, as is often attempted. The pulmonary circulation is under decidedly lesser vaso-motor control than the systemic circulation."

Sir James gives a long alphabetical list of drugs that have been recommended in hæmoptysis, and closes by saying that in looking through the list it gives a very good illustration of the old axiom that when many drugs are supposed to cure one and the same disease we may safely hold that few, if any, of them have the least influence over it.

The remedy which I would beg leave to indorse, in the treatment of pulmonary hemorrhage in all grades of severity, is atropine sulphate, administered hypodermatically. In studying the physiological effects of atropine, Professor Roberts Bartholow says: "After the injection of an ordinary dose of atropine a decided slowing of the heart takes place. But there is first a decided increase in the number of the pulse beats. This action has been shown to be produced by, firstly, a stimulation of the cardiac ganglia, and, secondly, by a paralyzing action on the pneumogastric terminal filaments. In other words, the motor power of the heart is increased, while the inhibitory power is diminished. The effect of atropine on the vaso-motor centres is not confined to the cardiac ganglia, but extends to the vaso-motor ganglia throughout the body."

Bartholow further says: "It is a singular fact that the influence of atropine rapidly produces a state of over-excitation, and the irritability of the vaso-motor system, at first increased, soon diminishes, the heart action becomes weaker, the blood-vessels dilate, and blood pressure sinks below the normal." Upon this physiological fact is based the good results observed and obtained by the use of atropine hypodermatically in the treatment of pulmonary hemorrhage. It acts on exactly the same principle as does ligating the extremities in the same condition, and is a measure which no one should fail to employ in every severe case of bleeding from the lungs.

Dr. Cardarrilli, an Italian physiologist of repute, after making experiments in sixty-five cases of functional cardiac diseases, comes to the conclusion that arterial press-

[1] Read before the Medical Association of Central New York, June 2, 1891.

ure is reduced by the hypodermatic administration of atropine in doses varying from $\frac{1}{120}$ to $\frac{1}{80}$ grain.

Atropine must be given in large doses in order quickly to overcome the primary effect it possesses of increasing arterial pressure. If the dose be sufficient this primary effect is almost nil.

Professor Brunton, in speaking of the effects of atropine upon blood pressure, says: "Atropine has a powerful action, but this differs completely with the size of the dose. Small doses cause temporary contraction of vessels, which soon passes off and the vessels return to their normal condition. Medium doses cause primary contraction, which soon passes off, and instead of returning to the normal condition, passes into dilatation and then returns to the normal. Large or full physiological doses possess a similar effect, but instead of the dilatation passing away and the vessels returning to their normal condition the dilatation persists." In speaking of the effect this drug has over the vaso-motor centres, the same author says: "That while atropine in small doses stimulates the vaso motor centres, large doses depress or paralyze them."

Upon this principle—that of reducing blood pressure—is based the ancient and now justly discarded method of treating pulmonary hemorrhage by venesection. Emetics have been recommended having the same end in view; objection to this is obvious.

Ringer, in his "Hand-book of Therapeutics," quoting Dr. John Harley, says: "The first effect of belladonna on the pulse is to increase its quickness, fulness, and force. Small doses at the same time increase blood pressure. This continues to a certain extent, after which the pulse diminishes in frequency and loses in strength, and this is produced mainly by vaso-dilatation."

On page 522 of Ringer's "Hand-book" Dr. Harley is made to say, distinctly: "Moderate doses of atropine contract the arteries, while larger doses dilate them, the dilatation being due to exhaustion of the sympathetic system resulting from previous over-stimulation.

As far as my researches on this point permit me to speak, Professor Lebert, of Breslau, was the first to use atropine hypodermatically for the arrest of hemorrhage from the lungs, and this as far back as 1868, but the treatment was not generally adopted until quite recently. At the present time periodical medical literature abounds in reports of cases treated by this drug, and satisfactory results are frequently reported.

An editorial in a recent number of the MEDICAL RECORD says, under the heading "A Novel Treatment of Pulmonary Hemorrhage": "At a meeting of the Victoria Medical Society, Dr. R. A. Sterling reported a case of profuse bleeding from the lungs in which all remedies had failed to check the bleeding, which was sufficiently severe to threaten immediate death, but in which the hypodermatic injection of $\frac{1}{120}$ grain of atropine immediately controlled the hemorrhage. Thinking the cessation accidental the doctor omitted the treatment for twelve hours, with the result of a fresh and severe attack of bleeding, which was at once controlled by a renewal of the treatment mentioned above"

I have employed this treatment in four cases. In all of these cases there was little doubt that the bleeding came from the blood-vessels of the lungs. In most of them, particularly the earlier ones, other remedies had been tried in vain.

In regard to the size of the dose used, no definite rule was allowed to guide the administration, but the state of the pupils was watched, and enough atropine given to rapidly dilate them. That is the only safe guide to the certain effect of this drug in this condition. When troublesome cough was present, small doses of morphine were combined with the atropine, and this did not seem to lessen the effect. The limbs were usually ligated, small pieces of ice given to swallow, and the patient kept absolutely quiet.

The following is the history of a case that is a fair example of all I have treated:

M. B——, aged thirty-four, by occupation a salesman; gave a tubercular family history on the maternal side; resembles his mother; denied rheumatic, malarial, venereal, and alcoholic histories; has always been in good health. Without any extraordinary amount of physical exertion he was, on February 19, 1890, taken with a sudden and profuse flow of blood from the mouth and nose, and when seen had lost a great deal of blood, was pale, and in a greatly exhausted state.

The patient was in bed, and his clothes, bedclothes, and the carpet were saturated with blood; by his side stood a wash-basin more than half filled with bright arterial blood. Whenever the man moved or coughed he brought up more blood. After a brief examination I felt satisfied that the blood came from the lungs, and treatment was commenced accordingly. The patient was first rapidly cleaned up, calmed, and the room was cleared of numberless sympathetic neighbors. Ice was applied to the chest and small pieces given to swallow. At this time I had not yet used atropine for this condition, but proceeded to treat my patient with the following remedies: Normal liquid ergot was first injected hypodermatically. This did not lessen the hemorrhage in the least. I then gave gallic acid in combination with aqua cinnamomi internally and small doses of morphine hypodermatically to allay the irritable cough. The arms and legs were then ligated, but the bleeding continued unabated. My patient was *in extremis* and I was in despair. I then injected $\frac{1}{60}$ grain atropine sulphate. The pupils were dilated within a few minutes, and as soon as this was perceptible the bleeding diminished. One hour after the first dose it was repeated and all other treatment stopped. A third dose was given four hours after the second, and to this $\frac{1}{16}$ grain morphine was added for the cough.

In the meantime Dr. Charles S. Starr, of Rochester, saw the patient with me and corroborated my diagnosis of a ruptured blood-vessel in a small cavity in the middle lobe of the left lung.

The atropine was continued in this case for three days, the doses being regulated by the effect on the pupils, constant and well-marked dilatation being kept up during the whole time. There was no bleeding after the second dose of atropine had been administered, although blood-stained mucus was expectorated for several days.

I have a record of three other cases which are in substance similar to this one. I will not take up your time by that which would be only repetition. In my later cases atropine was given from the first, and bleeding was promptly arrested in every case.

Conclusions.—1. The vaso-motor control over the pulmonary arterioles is nearly nil. 2. Vaso-dilators acting on the systemic blood-vessels can have no effect on the pulmonary arteries. 3. Atropine in full medicinal doses diminishes blood pressure by causing dilatation of the peripheral blood-vessels. 4. Atropine is, therefore, theoretically indicated in hemorrhage from the blood-vessels of the lungs.

A Fatal Case of Poisoning with Epsom Salts is reported by Dr. William Sang in *The Lancet* for November 7, 1891. The patient was a woman about thirty-five years of age, and the amount of the salts taken was four ounces.

An Insane Asylum in Florida.—There seems to be something wrong with the Jacksonville Insane Asylum if the telegraphic reports are to be believed. It is stated that a man who called recently to see his wife, a convalescent patient, was somewhat astonished to find her in the family way. Then another of the patients drowned himself in the tank from which the water-supply for the asylum was drawn, and the body was not discovered for more than a month. When found it was much decomposed, but it was simply removed, the report states, no effort being made to clean the tank in which it had lain.

Progress of Medical Science.

Intestinal Occlusion Treated by Electricity.—In *Mercredi Médical*, September 30, 1891, there is a record of such a case in the service of Dr. Semmola, of Naples. The patient, twenty years of age, well, strong, and of highly nervous temperament, fell a victim to an attack of indigestion from over-eating. This quickly disappeared under the influence of a milk diet. During convalescence an indiscretion brought on diarrhœa, which ceased the following day. Then attacks of pain came on suddenly, in veritable crises that soon evidenced a well-marked occlusion of the intestine. When ice, purgatives, injections, had all failed, laparotomy seemed the next expedient. But Dr. Semmola, when called in on the third day, made a diagnosis of paralytic occlusion, based upon the following facts: The abrupt onset of pain; its return by crises during which the transverse colon could be outlined; its appearance after diarrhœa; an accompanying retention of urine; and the neuropathic character of the patient. Electricity was applied, the positive pole in the rectum, and the negative following the course of the colon. The current was thus applied three times a day for five days, ten minutes at a time. At the end of the first day there was considerable improvement; on the third, normal evacuations; and from the fifth day, complete cure that has been permanent for two months.

Causes of Arterio-Sclerosis and Arterial Cardiopathies.—According to the *Mercredi Médical*, September 30, 1891, Dr. Huchard places the poisons of imperfect digestion among the many causes of arterio-sclerosis and arterial cardiopathies. Excessive meat diet, or game slightly cooked or of poor quality, throws into the economy numerous ptomaïnes that are imperfectly eliminated and are capable of producing poisonous effects hitherto ascribed to heart trouble, as vertigo, dyspnœa, etc. Such conditions are favored by renal insufficiency, that in turn becomes a cause of arterio-sclerosis. The town-dweller and the wealthy eat too much meat. Poor people and peasants eat less, but of such inferior quality that the result is the same, namely, an excess of ptomaïnes. For those showing predisposition to the troubles under consideration, well-cooked meat once daily, fresh vegetables in abundance, and milk, constitute an ideal diet.

Pathogenesis and Treatment of Scoliosis.—Dr. L. H. Petit, of Paris, according to the *Mercredi Médical*, September 30, 1891, thinks that scoliosis is due to some vice of nutrition that acts at the same time upon the three elements of articulation—upon the bones, ligaments, and muscles—beginning in arrest of development in some point of ossification in the body of the vertebræ. The primary cause of this condition is not rachitis. Subjects attacked with scoliosis are usually lithæmics, neuropathics. Among them, neurasthenia makes itself felt in all the joints, which show a generalized relaxation. If the spinal column seems to suffer oftener from deformity, it is simply because such an important deviation cannot possibly be overlooked. To lithæmia and neurasthenia is frequently joined mental overwork, bad habits of poise while studying or during play. Growth and the establishment of puberty are also a tax. Dilatation of the stomach is of frequent occurrence among lithæmics, neurasthenics, and those suffering from scoliosis. In itself it is a potent cause of debility. Treatment, exclusive of local or mechanical measures, consists in remedying as far as possible this dilatation, the lithæmic state, the neurasthenia, and menstrual disturbances.

Incontinence of Urine in Children.—In a recent issue of the *Annales de Médecine* Dr. Lyon gives some sound advice concerning nocturnal enuresis. Symptomatic incontinence must first be excluded. Then everything possible must be done to moderate cerebral activity, to break up the impulse or dream that prompts the act of micturition. Hygiene is of first importance. Drinks at night must be forbidden. Hydrotherapy is of great value. Antipyrin internally will often effect a cure. This failing, local irritation by electricity about the membranous portion of the urethra is an excellent remedy and a less violent procedure than cauterization. Moral suasion is helpful; and, as a last resort, hypnotic suggestion.

Experimental Pancreatic Diabetes.—According to the *Mercredi Médical*. September 30, 1891, before the French Academy of Medicine, Dr. Lancereaux exhibited for Dr. Thiroloix a dog which had undergone extirpation of the pancreas. The animal presented the typical condition of pancreatic diabetes, or what the French call thin diabetes. This condition had developed in thirty-five days after the operation. Glycosuria appeared within two days of the operation, ceasing twice for a period of one week, then was replaced by azoturia. In order to make the animal really ill, complete ablation of the pancreas was necessary, for simple ligation of Wirsung's canal had caused him no inconvenience whatever. The subject of pancreatic diabetes was then discussed by Drs. Germain Sée, Lancereaux, Ollivier, and Semmola. The foregoing interesting experiment Dr. Sée considered a valuable addition to those made by Minkowski, Mering, Hédon, and Lépine. It confirmed Dr. Lancereaux's earlier studies and discovery of the clinical picture of pancreatic diabetes. As the function of the pancreas upon general nutrition was as yet unknown, the substitution of azoturia for glycosuria in this experiment proved highly interesting. Not all "thin" diabetics could be called pancreatic. Three recent autopsies made by the speaker were negative in this particular. Dr. Sée recalled to the Academy his own experiments, made by the introduction of fluorhydzine. The remedies considered panaceas in the treatment of diabetes, Vichy and opium, were tried. Vichy proved unavailing, and opium hurtful. Dr. Sée strongly recommended antipyrin, and spoke of Dr. Panas's case that under the influence of this drug supported well the extraction of a cataract. In reply, Dr. Lancereaux said that pancreatic diabetes was a more precise term than "thin diabetes." There were several forms of diabetes: the fat form, or the diabetes of lithæmics that become fat at the end of the period of growth, with but little glycosuria, who were but slightly diabetic, slightly polyphagic, and who often live to the age of eighty. With these, diabetes was more a manner of being than a disease. Then there was pancreatic diabetes, and traumatic diabetes (Claude Bernard). Dr. Semmola objected to the interchangeability of the terms glycosuria and diabetes. The first was a symptom merely; the latter a terrible disease that might be nervous, traumatic, lithæmic, or alimentary in origin. There was either insufficient destruction of sugar or excessive production. Dr. Sée replied that, while agreeing with his confrère that an error in nutrition lay at the bottom of all diabetes, he thought the apparent fine condition of certain persons suffering from glycosuria should never mislead as to the gravity of the case, and referred to Dom Pedro, the late emperor of Brazil, who set up a serious gangrene of the foot while at Vichy, by simply trying to cure a corn. In summing up, Dr. Lancereaux said that slight and temporary diabetes was the same thing as permanent traumatic diabetes that soon became fatal, the difference lying solely in the degree of gravity, as in variola and varioloid. Earlier in the discussion Dr. Ollivier spoke of hereditary diabetes and of nervous emotional diabetes. The latter he had seen develop instantaneously upon a sudden loss of fortune. Fifteen years later the patient died of diabetic pneumonia.

Treatment of Puerperal Eclampsia.—In the *Journal de Médecine et de Chirurgie*, October 25, 1891, Dr. Dubost's views upon this subject are given. During the last three months of pregnancy it is absolutely necessary to examine the urine of every woman, without any exception whatever. Only in this way it is possible to meet

the exigencies of albuminuria and puerperal eclampsia. The examination must be made every fortnight, regardless of the fact that there may exist no subjective or objective symptoms pointing to albuminuria. Two things are to be considered in dealing with this condition, prophylactic treatment and the treatment of the disease when confirmed. The instant albumin is detected, the patient must be treated accordingly, throughout pregnancy, during confinement, and afterward until the last trace of albumin has disappeared. A milk diet is the treatment *par excellence* of albuminuria, and constitutes equally a sovereign prophylaxis against puerperal eclampsia. Tarnier and Budin state that women put upon milk diet always escape convulsions, and other observers confirm this. This simple precaution of exclusive milk diet would eventually exclude puerperal eclampsia, except in those rare instances wherein albumin precedes it by a few hours or a few days. When the convulsion declares itself, treatment depends entirely upon whether the woman is in labor or not. If not, all obstetrical methods are discarded and only medical measures are used. Of these, preference is given to chloral and chloroform. Chloral may be considered the specific in puerperal eclampsia. There are several ways to administer it, though not all are equally favorable. Large doses by the mouth produce serious irritation of the gastric mucous membrane, and at the same time are but slowly absorbed. Hypodermic injections are also objectionable. The best method of administering chloral is by the rectum, in the following form of enema :

Chloral hydrate.....	4 grammes.
Milk	100 grammes.
Yolk of one egg.	

This enema must be given with great care and precaution, for the patient is often in much motion. A syringe used for hydrocele is the one to employ, the extremity capped with a soft-rubber sound of eighteen or twenty calibre. This is anointed with borated glycerine and introduced high into the rectum and the enema gently given. In this way danger of injuring or perforating the rectum is averted. The injection is rarely expelled. If it is, it must be administered in the same way a second time. This rectal injection should always be given when, at the commencement of labor, there is agitation, restlessness, frontal headache, difficulty of vision, or pain in the epigastrium. It will often avert an eclamptic attack. If, at the end of three hours, the seizure continues and the temperature remains high, another enema may be given, containing as before four grammes of chloral. As many as fourteen, sixteen, or even eighteen grammes may be given in twenty-four hours. The milk and egg render the drug less irritating, and these large doses are well supported. Chloroform is the next best agent in eclampsia. It is a powerful remedy, to be used while waiting for the action of chloral whenever a woman is in an eclamptic seizure. Often chloroform will ward off an attack that is imminent, and should be given on a handkerchief whenever such a catastrophe is suspected. Inhalations must be kept up until there is complete muscular relaxation. It is well borne and may be used when necessary for several hours, even for twenty-four hours, to keep the body in a state of relaxation. Because there have been no accidents is no excuse for neglect of any and every precaution. The physician should never leave the bedside of an eclamptic patient for any pretext whatever. The patient should be isolated in a warm room, far from noise or shock, and kept in half darkness. Every movement and examination should be avoided as far as possible, for even a touch may suffice to bring on an attack. It is necessary to sit by the bed to keep the woman covered and prevent her from falling out. If she strikes or attempts to do herself harm, the hands must be held by persons in attendance. Tying the woman or putting on a straight jacket impedes respiration and is a source of great danger. To prevent biting the tongue, a thick wad of rolled linen may hold it back of the dental arches. Wood or metal thus introduced may break the teeth. Drinks should not be given in porcelain or glass that easily breaks and thus becomes a cause of serious injury, but from a tin nursing-bottle. The attack once passed, the dose of chloral in the enemas is reduced, and these are decreased in number. Four grammes of chloral a day are soon sufficient. Purgatives, even drastics, or purgative enemata, every two or three days until convalescence is established. During labor, when there is a convulsion, these same precautions and rules are to be followed. But vaginal examinations are essential, for there is nothing to tell how matters are progressing except the touch, and the child may be born and smothered. Particular care must be given to the perineum, which is weak in all albuminurics and specially liable to great damage. When dilatation is complete, and not an instant before, the child must be delivered rapidly by the forceps. Naphthol may be used as an antiseptic. The perineum must always receive special attention, and the physician must be constantly on his guard against hemorrhage. Never consider a woman cured because puerperal convulsions are over. They may return at any moment. The urine must be examined daily and milk diet kept up until albumin has entirely disappeared.

Male-fern is not an entirely harmless remedy, though long in use and one of the best of anthelmintics. Dr. Eich does not favor the usual method of giving the drug fasting, since, when the stomach is empty the absorption of the toxic principles into the general system is facilitated and poisonous symptoms may occur. Several fatal cases of poisoning are reported. The ethereal extract contains poisons which act upon the central nervous system, a tetano toxine or tetanus-producing body playing an important rôle. The dose of ten grains or two and a half drachms should not be exceeded.—*Deutsche Medicinische Wochenschrift.*

Treatment of Abscess of the Breast.—In the ordinary way of treating an acute parenchymatous abscess of the breast coming on during lactation, the surgeon often finds that after one abscess is opened and temporary relief has been obtained, a second or third purulent collection forms, and persistent fistulæ cause the patient to despair. Dr. Boeckel recommends, as a means of avoiding this, to radically extirpate all the lobules implicated in the suppurative process. In the six cases so treated the following course was pursued : The patient being narcotized, the whole of the affected region was surrounded by two elliptical incisions from twelve to fifteen centimetres in length. The thinned skin and the diseased lobules were then removed, care being taken to make sure that no deep pockets already implicated should be left. Then, after disinfecting the operation field with the chloride of zinc and corrosive sublimate, the wound was brought together without drainage by means of deep and superficial sutures. The patients were completely cured at the end of nine or ten days.—*Gazette Médicale de Strasbourg.*

Myxœdema Treated by Injections of an Extract of the Thyroid Gland.—It has recently been considered as an established fact that myxœdema is due to loss of function of the thyroid gland. Improvement has followed the introduction beneath the skin of a portion of the thyroid taken from a sheep, and as the benefit was immediate it was argued that it must be due to the absorption of the juices by the tissues of the patient. Dr. Murray (*The British Medical Journal*, October 10, 1891) thinking it reasonable to suppose that the same improvement might result from injecting this fluid, or the extract of the gland, suggested this treatment some months ago, and has recently carried it out in a well-marked case, with decided improvement in his patient's condition. The freshly removed gland is cut up aseptically and placed in a test-tube, with one cubic centimetre each of pure glycerine

and a half per cent. carbolic acid solution. The tube is plugged with cotton wool and left in a cool place for twenty-four hours. The mixture is then squeezed out through a handkerchief previously dipped in boiling water. The fluid obtained is enough for two injections of twenty-five minims each, during the week, and each week the extract is to be made fresh. In the case treated, after three months œdema had markedly disappeared, almost normal speech had been regained, and the general condition was much improved. Dr. Fenwick has observed the action of thyroid fluid in two cases of myxœdema, and finds it a powerful diuretic. He thinks no effect is produced by the injections where the kidneys are in a healthy state. While much improvement was shown in his cases, he inclines to the opinion that the myxœdema depends on perverted renal function, and that the theory of the diseased thyroid is incorrect.

Peripheral Neuritis in Cancer.—Dr. Auché concludes a work on the existence of neuritis in cancerous subjects, in the *Revue de Médecine*, October, 1890, as follows: 1. Neuritis can develop, and in fact often does develop, in the course and under the sole influence of carcinomatous affections. 2. The situation of the neuritis is very variable, but in general the nerves are the more altered the farther they are away from the nerve-centres. 3. These neurites are in relation with clinical symptoms which one must know to search for in such cases. 4. They are probably due to nutritive troubles and to alterations of the fluids and tissues which take place in the cachectic period of cancerous tumors.

Diagnosis of Bladder Tumors.—Dr. Guiard points out some features of hæmaturia which may aid in establishing the diagnosis without digital examination or exploratory incision. Prostatic tumors are scarcely ever accompanied by hæmaturia; renal tumors very generally are. Renal hemorrhage is quite often only of short duration, small in amount, and recurs at long intervals. At times there is an alternation of clear and bloody urine in the same day, a condition never seen in hemorrhage due to tumors in the bladder. Renal hemorrhage gradually diminishes and finally disappears. The opposite is seen in bladder tumors. In washing out the bladder if the last drops consist of pure bright blood, it speaks for tumor of the bladder. Elongated clots, rarely found, are probably formed in the ureter, especially if pains like renal colic have preceded their discovery. Small blood cylinders may be casts of the efferent kidney tubes. Hypogastric palpation alone usually shows nothing, but after the bladder has been emptied Guyon's method of *ballottement* shows the smallest increase in the size of the bladder. By pressing the anterior hand deeply with successive expirations, the extent and thickness of a bladder tumor can be appreciated.—*Archives Générale de Médecine*, October, 1891.

Prevention of Pyo-septicæmia in the New-born.—Professor Epstein says, in the *Jahrb. für Kinderheil.*, No. 31, that much may be done to diminish the death-rate from pyo-septicæmia in the new-born, which is too common even in private practice and under the most favorable external surroundings. Cases are very rare in which septicæmia is acquired in utero or during parturition. The most common entrance for septic matter is the umbilicus. The danger is, of course, greatest during the first few days after birth, when the navel presents the conditions of an open wound. Prophylaxis must begin with the most careful treatment of the cord. The stump should be well cleansed and surrounded with carbolized gauze, with the idea of securing mummification at the earliest possible moment. All forms of moist dressings should be avoided. Antiseptic powders are not favored, as sometimes they produce a fungous growth. Free access of air to the stump has been found to hasten the process of drying and healing. The hands of the physician and nurse should be scrupulously clean when dressing the cord. For the first baths such an antiseptic solution as that of permanganate of potash is recommended. Too often and too severe washing of the mouth is a frequent cause of aphthæ. Dirty fingers or dirty instruments must never be put into an infant's mouth in case of asphyxia, etc. One drop of a two per cent. solution of nitrate of silver should be instilled into each eye of the new-born, in private as well as in public practice, as a preventive of blennorrhœa.

Gastric Headache.—Dr. Westphalen has found that toxic substances in the stomach under certain conditions are capable of producing, through absorption, disturbances of circulation in the central nervous system and its associated parts which result in headache. A complete absence of hydrochloric acid in the stomach contents was found, and when this acid was prescribed complete recovery followed. The theory advanced for the beneficial action of this drug is that ptomaïnes or toxines of micro organisms exert an injurious influence only when there is a deficiency in the quantity of free mineral acid in the stomach. Headache may also be prevented in such cases by administering the acid directly after the patient has eaten articles which have previously always been followed by headache. The nature of the noxious substance is at times obscure, as in instances where indigestion, headache, and urticaria follow the use of chocolate or strawberries, but in such cases also hydrochloric acid acts well.—*Berliner Klinische Wochenschrift*, No. 37, 1891.

Yellow Fever is raging at Santos and the quarantine officers examine all the steamers arriving at this Port from Brazil with special care.

Punishment of Abortionists in France.—A trial which has been going on at the Palais de Justice, in Paris, for twelve days, in which Marguerite Thomas and Abélard Fleury, with forty-six accomplices, were charged with illegal obstetric practice, came to a close recently. Thomas was sentenced to twelve years' hard labor, and excluded from Paris for a further period of eight years. Fleury was sentenced to ten years' solitary confinement. Two other women were sentenced to two years' imprisonment, and the remaining forty-four were acquitted.

The Debility following Influenza is said to be greatly benefited by anacardium occidentale (cashew nut).

Eye-lotions of Boric Acid for Influenza.—Dr. Richard Sisley, in a paper read before the International Congress of Hygiene and Demography in London last summer, quoted Dr. Bezly Thorne, who recommended that the eyes of people exposed to infection should be bathed with a solution of boric acid, and found that none of those who adopted that practice suffered from the disease. The recommendation was founded on the theory that the poison of influenza is absorbed by the conjunctiva.

Harvard Medical Graduates will be interested to know that Bulletin No. 1, containing a report of the first annual meeting of the Harvard Medical School Association, held in Boston June 23, 1891, has been published, and will be sent to any graduate on application to the Secretary, Dr. Robert W. Lovett, 379 Boylston Street, Boston, Mass.

A Double-faced Woman.—Women with two faces are often heard of, but they are rarely seen presenting both faces for inspection at the same time. A Mexican journal announces the following curious condition: "A lady with a normal face in its normal situation has also a reproduction of a human face upon the right thigh. There are two perfect eyes and a mouth filled with teeth. If the cheeks are pulled down the eyes open. Apart from this abnormality the lady is said to be well formed." Probably maternal impressionists might claim that this freak had a gossipy mother.

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MODERN TREATMENT OF PNEUMONIA.

THE result of interviewing prominent French physicians upon the subject of pneumonia and its treatment, is given in substance in the *Gazette des Hôpitaux*, November 24, 1891. Opinions are widely divergent, and at the same time sufficiently interesting. Preparations of antimony are in general disfavor, while injections of caffeine are held in high esteem. No one pretends to have any set rules, symptoms or complications receiving attention as they arise. As agents of value, kermes mineral, wet cupping, blisters, cold baths, alcohol, kola, tea, coffee, camphor, digitalis, and subcutaneous injections of ether are advocated. Those who incline to a middle course affirm that pneumonia can take care of itself in many cases, and get along without drugs, medical interference being reserved for emergencies. This is the view of Dujardin-Beaumetz, Becquoy, and Rigal. Simple pneumonia in children is never fatal, according to Hutinel. The consensus of opinion favors the idea that to combat asphyxia, strengthen the heart, sustain the patient, and to administer milk as both diuretic and aliment, constitutes the best there is of modern treatment.

Systematic venesection is now obsolete. One authority seems to regret this, Professor Cornil, late chief assistant to Boillaud. The statistics of Boillaud's clinics, he affirms, show better results than are obtained nowadays, in part due, possibly, to the different character of pneumonia at the present time. It is well to bear in mind that reports of cases subjected to no treatment whatever, in Paris and Vienna, show better results than any similar number wherein venesection has been practised. Wet cups are applied over the seat of earliest inflammation by Proust, Peter, and Descroizilles. Blisters are also advocated, by Cornil at the outset, Dujardin-Beaumetz when fever has disappeared, and also by Becquoy toward the close of the disease. Ferrand considers them valuable, and Proust thinks they are useful in relieving congestion and getting rid of morbid products. In the case of children, one or two blisters are applied by Descroizilles. On the other hand, Muselier, Landouzy, Faisans, and others look upon them as not only useless but positively hurtful.

In regard to internal remedies, Dujardin-Beaumetz looks upon kermes mineral as unsafe, though tartrate of ammonium is given by Peter, Becquoy, and Danlos. But this style of treatment is completely ignored by Montpallier, Andhoi, and Faisans. Subcutaneous injections of caffeine, from fifty centigrammes to three grammes a day, are employed by Moizard, Huchard, Hutinel, Legroux, and Dujardin-Beaumetz. The latter prefers kola, coffee, and tea to alcohol, though this he uses during convalescence. Alcohol is administered by Peter to the aged and the weak; when there is fever by Ferrand; and to sustain the heart by Moizard, Proust, and Faisans, with the addition whenever necessary of caffeine and digitalis. As analeptics, Ferrand favors acetate of ammonium, tincture of arnica and of bryonia, camphor, and musk. To combat fever quinine is used by Becquoy, Moizard, Legroux, and Faisans. Cold baths are beginning to find favor. They are advised by Rigal in nervous phenomena incident to the nephritis of pneumonia. When there is high fever in children Hutinel finds them of advantage; Montpallier thinks well of them, and Andhoi has all his patients bathed in tepid water, with or without soap, for cleanliness rather than for therapeutic effect. Saline purgatives are used to overcome gastric disturbances, ether subcutaneously to combat collapse, and ergot to hasten tardy resolution. In fact, the modern treatment of pneumonia everywhere may be briefly stated as a mixture of common sense and individual peculiarity, the first being the largest ingredient.

SOME RECENT VIEWS ON LUPUS.

WHILE the consensus of opinion is almost unanimous in favor of the tuberculous nature of lupus, there still remain many standpoints from which medical thinkers look upon the disease, and it is always interesting, and often profitable, to note their views.

In a discussion of lupus which took place at the annual meeting of the British Medical Association, Dr. Payne draws attention to certain points which still admit of controversy.

Lupus has occasionally been attributed to traumatism, but in such instances there must either have been something abnormal in the tissues of the patient, or some specific infection is introduced into the wound. Everything points to a specific irritant, and the structure of the growth warrants the same conclusion. The history of the disease, both clinical and pathological, the speaker thought, would show that there must be a persistent, and therefore a living, irritant which keeps up the granulation growth.

No point has been more debated than that of the relationship which lupus bears to tuberculous or scrofulous disease in the same subject. In the experience of Dr. Payne, while the majority of lupus patients are healthy in other respects, about one in four present some other manifestation of tubercle, such as joint disease, phthisis, or scrofulous glands.

Although this proportion is much larger than that given by most observers, it does not have such a great bearing on the question after all, for we can conceive it quite possible for one organ or region of the body to be affected and other organs escape. In regard to family history, the speaker goes on to say that he has found an even greater proportion of tuberculous affections, and finds that they are indeed more frequent in the parents or relatives than in the patients themselves. If this personal experience can be established as a general princi-

ple, it would lead to the suggestion that lupus is often a manifestation of hereditary tuberculosis. In this connection it is interesting to note Baumgarten's recently advanced view, that the bacillus may be directly inherited, like the virus of syphilis, from one or the other parent. Drysdale believes that this theory is tenable for a certain number of cases of lupus, while several gentlemen who took part in the discussion of Dr. Payne's paper, including T. Calcott Fox, agreed that a family history of tuberculosis was especially frequent in lupus cases.

It is generally stated, however, that lupus itself never occurs in two successive generations; but this is evidently an erroneous statement, for the author has himself seen it in parent and offspring. Another instance, where instead of "never" one should substitute "hardly ever," is in Mr. Hutchinson's statement that lupus never gives rise to infective gland disease, since Leloir has found that adenopathies frequently occupy the lymphatic structures leading from the lupus, and Fox states that lupus can undoubtedly secondarily infect the related glands and lymphatics, and, after long years, the viscera.

That infection may take place in the opposite direction would also appear probable from the author's experience as well as that of Radcliffe Crocker, though the bacillary growth of scrofulous glands usually dies off when it reaches the surface, and only exceptionally extends along the skin in the clinical form of lupus. The experience of a number of gentlemen present was to the effect that the association of lupus with other tuberculous lesions was not the rarity which it was usually believed to be, but was on the contrary not infrequent. Fox has shown by the statistics of eighty hospital cases of true lupus, that scrofulous or tuberculous lesions of the skin, bones, glands, or joints were frequent complications.

Lupus differs from other forms of tuberculous disease in its slow and chronic process, its feeble infectivity, and the paucity of bacilli usually found; and the author attributes these characteristics, in a measure at least, to the comparatively low temperature of the skin, which offers an unfavorable condition for the development of the bacilli, being about twenty degrees lower than that presented by internal organs. The author sees no reason for making any broad distinction between lupus and inoculated traumatic tuberculosis; while Pye-Smith still believes in such a distinction, though admitting the same bacillary origin for both. Fox points to the failure of attempts to reproduce lupus as a weak spot in the argument, but it must be borne in mind that Mr. Eve has by inoculation of lupous tissue in a rabbit's ear produced what was apparently a true lupus differing from inoculated tubercle. It will thus be seen that, while more is known about the nature of lupus than formerly, there are many points on which observers still differ; but as more attention is being paid at the present time to tuberculous diseases in general than probably ever before, it is more than likely that some of these at least will soon be definitely settled.

The Consumption of Eggs in Paris is something enormous. According to a municipal statement, the metropolis consumed last year no less than 23,000 tons of eggs —equal to about 9½ kilos *per capita*, or 147 eggs.

PAIN IN HEART DISEASE.

VERY often pain experienced by those suffering from heart lesions is due to pleuritic trouble, to the rheumatic diathesis, or to some functional nervous disturbance. At the same time pain in the left half of the thorax always suggests a possibility that its relation to cardiac abnormity is more than coincidence. The *Lyon Médical*, November 1, 1891, quoting from another journal, gives in substance Dr. Nothnagel's recent contribution upon this subject, based upon the study of four hundred and eighty-three cases, all neuropathic; painful precordial affections and pericarditis being excluded. Cardialgia is of extreme frequence in aortic insufficiency and stenosis, and rare in mitral regurgitation. Leaving out sclerosis associated with obliteration and stenosis of the coronary vessels, the author finds that in muscular cardiac defects pain is frequent only in arterio-sclerosis with hypertrophy of the heart. The clinical aspect in this case is identical with symptomatic cardialgia associated with valvular disease. The pathogenesis of this pain is not discussed, our knowledge of the heart's nervous mechanism being as yet too circumscribed for the establishment of any theory. The extreme frequence of cardialgia in aortic affections seems to indicate that its origin lies in the artery itself. Diseases of the arteries are always extremely painful. This accords with the fact that in cardiopathics in general there are frequent lesions of the coronary vessels.

THE MEDICAL TREATMENT OF CYSTITIS.

IN a paper read before the Philadelphia County Medical Society recently, Dr. James Tyson gives a plain and practical account of the best way to treat acute and chronic cystitis by medical means. In his article Dr. Tyson disposes very summarily of some therapeutical measures which are commonly thought to be useful, clearing the ground for what he believes is rational treatment.

As to acute cystitis he says: "Acute cystitis is far less commonly met by the physician than the chronic form, while its treatment is far simpler, and, I may add, more satisfactory, at least so far as the removal of the acute symptoms is concerned. Rest in bed is a primary and essential condition. Leeches to the perineum should be applied more frequently than they are. A poultice to this same region and over the abdominal region is always useful, while a brisk saline cathartic should never be omitted.

"As the feverish state which always accompanies cystitis is more or less constantly associated with a scanty urine, concentrated and irritating to the inflamed mucous membrane, it is desirable at once to increase the secretion, and thus dilute it. Copious libations of pure water, to which the citrate or acetate of potassium is added, in fifteen to twenty grain doses for an adult, should be allowed. The ordinary spirits of nitric ether in two-drachm doses every two hours is an admirable adjuvant, and may be combined with the officinal liquor potassii citratis, which contains about twenty grains of citrate of potassium to the half ounce. Formerly the mucilage of flax-seed, or flax-seed tea, was much used as a diluent menstruum for the diuretic alkalies indicated, but I am

doubtful whether it is any more efficient than a like quantity of water.

"Where there is much pain and straining, as is often the case, especially where cantharides is the cause of the inflammation, opium is indispensable, always in the shape of a suppository, half a grain to a grain of the extract being thus administered, or a proportionate amount of morphine. Iced water injections into the rectum, or pieces of ice similarly applied, are very efficient in allaying the pain and irritation where additional measures are needed."

In chronic cystitis there are three indications to be met: First, to lessen the irritating qualities of the urine; second, to medicate the inflamed surface; third, to get rid of the pent-up inflammatory products. To meet the first indication one or two quarts of pure water should be drunk daily. It is, as Dr. Tyson says, a mistake theoretically to give alkaline waters or alkalies, yet practically in our opinion one sometimes finds good results from them. The best drug, as a rule, however, is benzoic acid, given in doses of thirty grains a day. To meet the second indication and medicate the surface of the bladder one may use both drugs and injections. Dr. Tyson discards entirely all the commonly used preparations, such as buchu, pareira brava, triticum repens, etc. He relies entirely on the balsams, and in particular on sandalwood oil, of which about eighty minims a day should be given. Boric acid, resorcin, and naphthalin may also be tried. Internally injections of tepid water twice a day should be used, about four ounces being injected at a time. After a while salicylate of soda, in the proportion of a drachm to the pint, may be employed. If there is much pus alum is to be added, and if there is a foul odor very weak solutions (1 to 25,000) of bichloride of mercury.

"Anodynes," Dr. Tyson adds, "are indispensable in many cases of cystitis to relieve the patient of extreme pain and the frequent desire to pass water, which are the result of the same cause. Opium and its alkaloids are the most efficient, and they are best introduced by the rectum. There appears to be no absorbing power for opium at least, and there is no use in attempting to use any anodynes by that channel."

Cocaine, from which so much might reasonably be expected, has failed of its purpose in Dr. Tyson's hands. He has injected as much as two ounces of a two-per-cent. solution into the bladder without effect, except to produce some of the symptoms of cocaine poisoning. Most disappointing, too, has been the use of cocaine to remove the exquisite tenderness of the urethra which sometimes attends this condition, and is a serious drawback to the use of the catheter.

Where there is greatly enlarged prostate, catheterization is indispensable, and is attended often with the most happy results. It is often too long deferred because of the natural repugnance to the use of the instrument.

A Successful Case of Bone-grafting is reported from Allahabad, a solution of continuity in the anterior layer of the frontal sinus having been induced to take on osseous repair by sprinkling the surface with "small fragments" of the hip-bone of a newly killed dog.—*Medical Press.*

HOW TO LESSEN INSANITY.

THE *Journal of Mental Science* for October, 1891, tells us how. This knowledge is embodied in Article 4 of a report on the care and treatment of the insane, formulated by a committee appointed by the Medico-Psychological Association of Great Britain and Ireland. The first thing to do is to avoid unwise marriages, and the next is to obey carefully all physiological laws. Moderation in all things is another factor. Judicious training and education, both mental and physical, are imperative necessities. Conditions of life and occupations that counteract morbid tendencies are the ones to be adopted. And last, but not least, is the preservation of a calm and equal mind amid the cares and perplexities of life. In other words, the speedy arrival of the millennium will lessen insanity.

Those earnest, honest men over in England who put this report into shape never meant to be funny, yet the whole of Article 4 bears a striking family resemblance to a saying of Greenough, the sculptor, to the effect that happiness consists in health, wealth, and requited affection. The directions for lessening insanity and the definition of happiness sum up about all there is of ideal human life.

THE REVIVAL OF SYMPHYSEOTOMY.

AN interesting crusade has recently been begun in Paris by Dr. Spinelli in behalf of symphyseotomy. Dr. Spinelli is a pupil of Professor Morisani, of Naples, who is known as the most skilful and experienced advocate of this measure.

Symphyseotomy for the extraction of the living fœtus is an operation which has never obtained a footing in any countries but Italy and France; the former country, and in particular Naples, is the especial home of it. Up to a few years ago 115 operations had been done in Italy, 32 in France, a few in Holland, Belgium, and Germany, but none whatever in the United States. (Harris.)

The operation as originally devised by Sigault in 1777, and as subsequently carried out, was attended with very poor results, and it fell into merited disuse. Among 86 cases 29 women and 45 infants died.

Since the operation was revived in Naples, in 1866, the results, owing to improved technique and better judgment in selecting cases, have been much more satisfactory. The mortality of both the mother and fœtus is now less than twenty per cent.

The lessened risk from the Cæsarean and Sänger operations has no doubt prevented the labors of Morisani from being more widely utilized. It is admitted also that symphyseotomy has only a narrow range of usefulness. It covers about the same field as craniotomy. According to Dr. Harris, it should never be tried when the available conjugate diameter is less than 2⅝ inches, and it is contraindicated in cases in which there has been disease of the sacro-iliac symphysis.

The question arises, however, whether symphyseotomy should not be tried when the diameter ranges from 2½ to 3¼ inches, since by it the child may be saved.

Professor Morisani has decided to place the matter before the International Medical Congress to be held in Rome in 1893, and in the meanwhile to call the atten-

tion of specialists to it in order that they may be prepared to discuss it in due time. For this reason Dr. Spinelli has gone to Paris, where he has, we are told, been well received.

On November 16th he gave an experimental demonstration before a number of prominent obstetricians.

We trust that American physicians will take a proper interest in the matter.

THE HEADACHES OF CHILDHOOD.

GROWING pains are more of a myth in regard to origin than in point of discomfort. The latter is very real. Headaches of the period of growth, so called, Dr. Jules Simon thinks very often due to causes other than those associated with organic development. This matter is treated at length in the *Journal de Médecine et de Chirurgie*, November 10, 1891. Headache in pale, puffy, sleepy eyed children, coming on after meals, is a digestive headache due to dyspepsia, that may be brought into existence by bolting the food, eating too frequently or at hours unwisely chosen, or too heartily at supper-time, or too near the hour for going to bed. Such headaches are benefited by reducing the evening meal to the minimum, sometimes suppressing it altogether, by warm drinks, by abdominal massage, and electricity applied to the abdomen. There is one kind of headache that is purely nervous, the headache of environment, so to speak, due to educational methods that result in a sort of perpetual exhaustion. This headache is worse toward evening. It may also be an expression of one of three distinct nervous disorders in this incipient state, of hysteria, epilepsy, and chorea. The epileptic headache Dr. Simon considers easy of recognition, for the pain comes on periodically and lasts an hour or two; often the character undergoes temporary change, and the patient is for the time incapacitated. Bromide acts well in such cases, also belladonna. These failing, the polybromides are usually successful. Hygiene is the mainstay. It must ever be borne in mind that children suffering from nervous headache are very sensitive to cold, and that they should be clad accordingly.

The choreic headache is difficult to diagnosticate at first, especially when the movements are but slightly accentuated. Antipyrin, which Dr. Simon calls the remedy for chorea, given in large doses will cure this form of cephalalgia. The rheumatic or uric-acid headache in children is usually an expression of gouty or rheumatic hereditary tendencies. Two interesting cases are cited—one a boy who appeared to have meningitis, yet recovered in a surprisingly short time under treatment of which an important element was bromide of potassium. The other, a girl fifteen years of age, suffered from persistent headache with congestive crises. Bromide was tried three months without avail. Small doses of salicylate of soda, followed by colchicum and valerian, induced rapid improvement in a remarkably short space of time. The rheumatic or uric-acid headache in its clinical aspects presents certain special characteristics. It is often accompanied by supra-orbital or post-cervical neuralgia, by joint troubles, and shifting symptoms that find expression in different parts of the organism. The urine is concentrated, cloudy, and contains urates in abnormal quantity. There is often profuse sweating without apparent cause, and attacks of colliquative diarrhœa. The foregoing are diagnostic points. Pain is first to be overcome. But the true remedies are those that relieve congestion, as the bromides, salicylate of soda, and colchicum. Diet plays an important part. Our French authors consider children subject to rheumatic headaches often sluggish in mind and body and indifferent to exercise. This they must be forced to undertake. Stimulation in the way of dry rubbings, and rubbings with warm liniments, are advised.

Even very little children do not escape malarial poisoning that gives rise to violent headaches. Quinine and hydrotherapy will cure this condition, that is, intermittent, accompanied by neuralgia, sweating, and general irritability. Other headaches due to poisoning are those that follow the protracted use of drugs, such as belladonna, opium iodide of potassium, and digitalis.

News of the Week.

The New York State Board of Medical Examiners.—If deliberation is a mark of a judicial mind, the members of this Board should be on the Supreme Bench. An examination of candidates was held in the Cooper Union, in this city, on the four days ending November 13th, and up to the present writing these unfortunate men are still waiting to learn whether they may lawfully practise medicine in this State or not. To the unofficial mind the keeping of candidates in suspense for six weeks seems little short of cruelty, and it is difficult to imagine any plausible excuse for such delay. We cannot congratulate the Board on the success of its first attempt, but possibly it may learn to move a little less slowly in time.

The Decline of Matrimony in England.—The decline of matrimony in England has of late years been very marked, more especially among the middle and upper classes. Nor are the revelations that are occasionally made in the divorce court of a nature to encourage the more prudent and eligible young men, and those who would make the best husbands, to be in any hurry to enter into the enjoyment of connubial bliss. It is some relief to middle-class families overburdened with an excess of daughters that the opportunities for girls earning their own living appear to be on the increase; but the competition for paid employment acceptable to young ladies of the middle classes is every day growing more severe. The prospects for middle-class girls in the immediate future appear, therefore, to be anything but bright, except to those who are not afraid of work. There are thousands of young men wanting wives at this moment in Australia and America, where there are few wives to be had. There is a career open to the surplus female population of England, if they can only manage once to get to the other side of the globe.

The Influenza Violently Epidemic in Berlin.—In connection with the prevailing epidemic of influenza at Berlin, a curious and somewhat disquieting fact has been reported by Professor Renvers to the Berlin Therapeutical Society. It is to the effect that in the clinical wards of the Charité Hospital, under the superintendence of Pro-

fessor Leyden, the disease has reappeared in the same rooms that were occupied by influenza patients in 1889. This seems to show that the interval of a whole year has not sufficed to get rid of the infection.

Dr. Rogers Pacha, Chief of the Medical Staff of the Egyptian army, has been appointed to succeed Dr. Greene Pacha as head of the Egyptian Sanitary Service.

Anti-Hypnotism in Belgium.—The Belgian Chamber of Representatives is discussing the Government bill, which has been brought forward in response to the wishes of the Belgian Royal Academy of Medicine. It is introduced to prohibit public exhibitions of hypnotism, as well as to anticipate and put down abuses which might arise from the practice of hypnotism.

Metropolitan Medical Society of New York.—At the annual election of the Metropolitan Medical Society the following gentlemen were elected officers for the ensuing year: *President*, Dr. Frank A. McGuire; *Vice-President*, Dr. William Cowen; *Recording Secretary*, Dr. F. F. Marshall, and *Corresponding Secretary*, Dr. Henry S. Stark.

The Alumni Association of the Mount Sinai Hospital celebrated the first anniversary of its existence with a dinner on December 7th at The Arena. Covers were laid for thirty, and a happy evening was spent in recalling the incidents of its old interne days. Dr. Alfred Meyer presided.

State Medical Examinations in Ohio.—Pursuant to a call issued by the Cincinnati College of Medicine and Surgery for a delegated convention of the medical colleges of the State of Ohio, held at Columbus, on December 3, 1891, representatives of the following faculties were present, viz.: Starling Medical College, Toledo Medical College, Pulte Medical College, Columbus Medical College, Medical Department of the National Normal University, College of Physicians and Surgeons of Columbus, Woman's Medical College of Cincinnati, and the Cincinnati College of Medicine and Surgery. Dr. Starling Loving was elected Chairman and Dr. Charles A. L. Reed, Secretary, who presented the following:

Resolved, By the Medical Colleges of Ohio, in convention assembled, that the Legislature be and is hereby requested to enact a law which shall embody the following features, viz.:

1. The creation of a board or boards of medical examiners, in the composition of which equitable and just representation shall be accorded to the various recognized denominations of medical practice. 2. The examination of all candidates for the practice of medicine holding diplomas hereafter issued by medical colleges which shall be deemed in good standing by the board. 3. Exemptions from examination to extend only to those who at the time of the enactment of this law shall be recognized as legal practitioners within the meaning of existing statutes; but all legal practitioners shall be required to register. 4. A penal clause which shall secure the enforcement of the foregoing provisions.

On motion by Dr. Scoville a committee consisting of Drs. S. S. Scoville, T. C. Hoover, G. W. Mayhugh, and Charles A. L. Reed, was appointed to confer with the Legislative Committee of Cincinnati for the purpose of securing such changes in the bill proposed by that committee as to make it conform to the resolutions adopted by this convention.

A Claim that Influenza is Contagious.—In his interesting work on "Epidemic Influenza," Dr. Richard Sisley claims that the cause of the disease is probably a microscopic organism, that it is contagious and is chiefly if not entirely spread by contagion. In proof of his theory of contagion he cites cases that show that influenza spreads from the sick to the sound; that isolated cases of influenza precede an epidemic; that influenza spreads along the lines of human intercourse; that prisoners and other isolated persons often escape influenza, although the disease may be raging in the town in which the prison is situated. He claims that the local health board should be notified of cases of influenza just the same as in cases of scarlet fever or diphtheria, and that laws should be passed making such notification compulsory.

Obituary.

R. A. KINLOCH, M.D.,

CHARLESTON, S. C.

THE decease of this distinguished surgeon removes one of the most able medical men which the South has produced. Inheriting from his Scotch ancestry that most rare of all intellectual qualities—good common sense—he was carefully educated at a time when a rapid passage through the schools was regarded as an ample medical education. After finishing courses of instruction in his native State, and graduating from the University of Pennsylvania, he spent two years in the medical centres of Europe, chiefly in Paris, London, and Edinburgh, for the purpose of broadening his knowledge.

Dr. Kinloch early developed a preference for surgery. The writer's first clinical instruction in this branch being obtained from him, he is free to say that no teacher to whom he has since listened, excelled him in clearness of presentation of the salient diagnostic points, nor in skilful manipulation.

To Dr. Kinloch is given the honor of having made the first resection of the knee-joint for chronic disease in this country. By his numerous and daring surgical exploits he won the position of standing at the head of his branch in his own and in the neighboring States.

During the late war Dr. Kinloch served as Medical Director of Hospitals for South Carolina, Georgia, and Florida, and as a member of the board for examining candidates for the medical department of the Confederate army.

Although he lacked that personal magnetism by means of which many less gifted men have reached eminence, he endeared himself slowly, but surely, to those who knew him well by his striking simplicity, his modesty, his candor, and his genuine kindliness of heart. He attained a lofty position in medical and social circles purely by reason of his absolute worth, true manliness, and excellent professional skill.

Dr. Kinloch's life was greatly saddened of late by the sudden death of a gifted son, in a railroad accident, which seemed to throw a pall over his life. Nevertheless, he did not relax from his self-imposed labors for the honor and advancement of his chosen calling.

Although well advanced in years, he was an active member of many medical societies, and often journeyed long distances; leaving his large practice to attend meetings of the American Surgical and other societies.

The life of this sterling man, illustrating the possibilities of a true physician's work, may be held up as an example most worthy of emulation.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, October 22, 1891.

EGBERT H. GRANDIN, M.D., CHAIRMAN.

Treatment of Pelvic Sinuses.—DR. W. GILL WYLIE presented a specimen and related the case in its relations to the question of how to treat sinuses the sequel of old pelvic inflammation, including salpingitis. Like other operators, until three years ago he did not encourage these patients to submit to an operation, having doubt whether he could deal with them successfully. From the experience gained last winter, he believed he could now treat them with as little risk as he could a case of ordinary salpingitis. In the case of the specimen presented, the patient had had a miscarriage some months ago, and developed what her physician supposed to be a cellulitis or peritonitis. There were several attacks, pointing pretty plainly to local peritonitis. This subsided, and she had a uterine hemorrhage, for which a physician, not a specialist in gynecology, curetted her, and soon afterward she suffered from chill, high temperature, and signs of local peritonitis. Dr. Wylie was called about the fifth day, and found on the left side of the uterus a tumor as large as one's fist, very tense, painful, and the uterus fixed. It was evidently an abscess within the peritoneum, around the left tube and ovary. He suggested an operation, but was in doubt whether it was best to tap per vaginam or to open the abdomen. The patient objected to an operation at that time, and when he came back from the country, about two weeks later, the abscess had burst into the rectum. The temperature fell, and the patient felt relieved until the tumor ceased to discharge and refilled. When it again discharged per rectum there was again relief. She entered the hospital, Dr. Wylie felt fluctuation posterior to, and on a plane with, the left broad ligament. But when such a tumor had emptied into the rectum, one was not likely to find it full enough of pus again to make vaginal puncture safe. He knew of two cases where the puncture had resulted in death, the trocar entering the broad ligament or in front of it. If, after waiting a sufficient time, the cavity did not refill and make it safe to puncture by the vagina, he opened the abdomen and was then able to guide the trocar introduced through the vagina so that it would not penetrate the intestine. Drainage thus established by the vagina sometimes resulted in absolute cure, but in four cases out of five an operative procedure would have to be undertaken to destroy the fistulous tract. After drainage had been established in the manner just mentioned, the radical operation could be undertaken with much less danger of sepsis. It consisted in removing the cause of the pus accumulation—for instance diseased tubes and ovaries—and dissecting out the pyogenic membrane; perhaps also in closing the rectal opening. In puncturing, the trocar was so constructed that a piece of it remained in the opening to act as a drainage-tube, and was fastened to the cervix to prevent it from falling out. This was left in four or five days, when a larger tube could be inserted through the fistulous tract left by the former, making thorough drainage. In the case related the abscess was in the ovary, the pyosalpinx remaining undisturbed. This was learned subsequently, when he performed laparotomy and removed the tube and ovary, together with the abscess-sac and lining of the fistula, by means of the finger-nails. The greatest care must be exercised on reaching the junction of the sac and opening into the rectum, lest the gut be torn. Formerly he would have thought it imperative to find the old rectal opening and close it; now he did not. In case, however, it came readily into view, its edges could be trimmed and united. The sac should be thoroughly cleansed before its removal was undertaken. The death-rate in his cases had not been much greater than in cases of ordinary pyosalpinx.

Hemorrhage, not Shock.—Dr. Wylie presented a second specimen, which was of interest intrinsically, as well as from the fact that it was the first death in his last seventy laparotomies. Incidentally it led him to the remark that he would rather undertake a formidable operation, in which there was danger of sepsis, in the summer than in the winter. This patient was forty-four years of age, had been an invalid for years, giving a history of dragging pains in the pelvis and of hemorrhage. He found the uterus enlarged, presumably studded with small fibroids, and to its right was a tumor somewhat smaller than one's fist, irregular in shape, seemingly a sarcoma of the broad ligament. Laparotomy showed the uterus studded with small fibroids, the tubes and ovaries healthy, except that the left one was somewhat atrophied. The tumor was underneath the broad ligament on the right side, the tube and ovary above it, the uterus to its right. He remarked to those present at the operation that it felt as if it might be the kidney, the right one, since it was on the right side. It was not floating, but was fixed in the right broad ligament. On enlarging the abdominal opening, however, and making further search, he was surprised to find the right kidney in place, and equally surprised to find no kidney on the left side. The operation was completed by removing the appendages and the tumor, which was a second right kidney, somewhat misshapen. He took the precaution, which he usually did after cutting off the diseased tissues, of retying the stump, but he did not wait, as was his custom, to see whether any blood collected in the cavity, indicating oozing from some unexpected source. The operation was performed in the morning, and at midnight there being sweating, restlessness, and rapid pulse, he was sent for, and opened the abdomen. In years past he would have thought of shock, and stimulated the patient, but he expected at present, under such circumstances, to find hemorrhage, and it was so in this case. The bleeding-point was a vein which he had accidentally punctured with his needle while ligating the stump. The vein lying deeply, the loss of blood was not observed when he lifted the stump at the time of the operation. The patient died five or six hours later.

Dr. Wylie said he was convinced that many cases of death heretofore reported as due to shock were really due to concealed hemorrage, and that life might be saved by reopening the abdomen. And if hemorrhage did not kill directly, the escaped blood formed a favorable nidus for the development of germs which may have been in the abdominal cavity before the operation, or introduced when it was performed.

DRS. MURRAY, LOCKE, and GRANDIN expressed their appreciation of the remarks of Dr. Wylie with regard to the use of the finger-nails, first emptying the sac of pus, danger of manipulating the rectal opening, after-inspection for hemorrhage, etc. The Chairman remarked that shock had militated perhaps most against success in abdominal surgery, and if it consisted, as he had understood Dr. Wylie, in internal hemorrhage, we now had a positive indication for treatment in these cases, namely, to reopen the abdomen and check bleeding. In this connection the question also suggested itself whether it would not be well always to put in a drainage-tube for the first twenty-four hours.

In answering the Chairman's question, DR. WYLIE related another case in which at laparotomy he found a great number of fibroids, dense and extensive adhesions, due, he felt sure, to old abscess. He managed to discover the tubes and ovaries in the midst of the adhesions, but was unable to find an intestinal opening which he thought, under the circumstances, must exist. Having left in a drainage-tube, as he always did where there had been extensive oozing, much serum or ascites, he had his assistant, at the close of the operation, make suction. There was sufficient blood to lead him to reopen the

abdomen, and he found a bleeding-point in the left pedicle, where it had been pierced by the needle. He also concluded to search again for a possible intestinal opening, and found one as large as his finger pretty high up. The patient was going on to recovery, but certainly would have died had the drainage-tube not given him the indication to reopen the abdomen. He thought that in the majority of laparotomy cases so-called shock meant hemorrhage, yet real shock might occur, in a comparatively acute case where the patient was very weak, and cause death.

Gynecological Table.—Dr. Francis Foerster exhibited a gynecological table which he had devised and used for a year with much satisfaction. It was composed of iron and steel, mostly galvanized, weighed less than fifty pounds, the legs folded under, making it portable. It was also adaptable to the Trendelenburg posture.

Puerperal Phlegmasia Alba Dolens.—Dr. J. H. Fruitnight read a paper with this title. Uncertainty and change, he said, had been characteristic of views on the pathology of the disease. It was most probable that the affection was produced by an occlusion of some of the veins of the lower extremity, and the chief factor in the causation was thrombosis of the venous, occasionally of the lymphatic, system. This would explain the swelling, pain, œdema, and mode of resolution. The frequency of the disease in the puerperal state was not great. The author had seen only four cases in a practice of seventeen years. The disease usually made its appearance one to four weeks after delivery, although thrombi might begin to form during pregnancy. The tumefaction sometimes became chronic, and even simulated elephantiasis. It might lead to suppuration. Having described the symptoms more in detail, the author went on to speak of treatment. The limb should be elevated and rendered immobile. To facilitate softening, use ointments, etc., keep the limb warm by wrapping up in flannel or cotton; if vesicles formed, puncture. Various agents had been lauded for relief of pain. When this had subsided, apply an elastic bandage, and subsequently an elastic stocking should be worn a long time. The patient should not rise too soon, or make unusual exertion, lest a thrombus be detached and cause sudden death; she should not stand too long on the affected limb, as it was prone to lose sensibility for a time.

Milk-leg Following Operations.—Dr. Wylie had had two cases apparently of milk-leg following operations. In one case the affection, almost typical in form, followed curetting for uterine fibroid, the cavity of the uterus being eight or ten inches in depth. In the other case, laparotomy had been performed. In a third case, seen last winter in consultation with a number of other gentlemen, the patient had the swelling and other symptoms in the leg follow supposed pelvic cellulitis, with chills and fever, commencing a week after delivery. Dr. Wylie thought it well to cut down into the pelvis, although nothing could be made out but a thickness in the line of Poupart's ligament. After going down deeply, he came upon, not pus, but a thick, grumous material which was let out. In the end the patient recovered, but he could not say whether it was because of the operation or in spite of it. At any rate, where there were indications for it, one should operate.

Dr A. H. Buckmaster had seen two cases of puerperal phlegmasia alba dolens in a private practice. He had also seen phlegmasia of the left leg follow, within twenty four hours, an injection of creoline into the uterine cavity which an unskilled nurse had accidentally made when told to inject the vagina. Perhaps it was a mere coincidence.

A Septic Disease.—Dr. R. A. Murray thought there were very few cases of this disease compared with the number seen formerly, when little attention was paid to asepsis. A number of years ago many cases were seen at Bellevue, in some the cause evidently being due to retained portion of placenta, use of dirty instruments, bad air of the wards. Inflammation might be found in the tubes, sometimes it had extended through the lymphatics instead of through the veins. If it extended through the lymphatics there was apt to be involvement of the broad ligaments. The crural lymphatics were affected only where there was involvement of the external genitals. The disease was due to sepsis, and this was the more apparent since in the Maternity Hospital it had been unknown after the days of antiseptic or aseptic management. He recognized two classes of cases, namely, those in which the lymphatics were involved and there was a solid œdema which required a long time to get well, and those of femoral phlebitis, with puffy œdema which could be relieved by raising the limb, and which usually disappeared altogether unless there were a varicose condition produced by occlusion of the vein. He thought if patients with subinvolution were not allowed to get up there would be less milk-leg. He had seen several cases with an analogous condition following typhoid fever. Usually in both cases, it seemed, the left leg was affected.

Septic and Benign Forms.—Dr. Schmidt thought the term phlegmasia alba dolens had not been well chosen. There were, in his opinion, two classes of cases, the septic and the simple or benign. The latter seemed to be due to thrombosis, the result of weakened heart action.

Dr. Ralph Waldo said, in corroboration of the view just expressed by Dr. Schmidt, that he had seen one case of inflammation of the veins due to a weakened condition of the heart brought on by pneumonia.

The Chairman said that one of the strongest arguments in favor of the view that milk-leg was due to sepsis was the fact that we saw so few cases since the days of asepsis. He could recall no case at the Maternity Hospital, and in private practice only one, and there it was due to sepsis. Whether the phlegmasia was due to the effect of the septic matter on the heart, leading to slow heart-beat, was a secondary question. He asked Dr. Buckmaster whether in his case the creoline injections were made on account of sepsis.

Dr. Buckmaster replied that the injections had been directed to be vaginal, not for sepsis, but because there was a cervical laceration.

Intestinal Obstruction following Operation for Stenosis of the Cervix.—Dr. F. Spencer Halsey read the paper, which will appear in the Medical Record.

The Diagnosis Doubted.—Dr. Wylie thought that to cut the internal os with a bistoury was a more dangerous operation than laparotomy. He believed that in this case there was sepsis; probably an abscess formed, that the abscess caused more or less obstruction by pressure, which was relieved when the abscess broke, and perhaps recurred when it refilled. He did not think a band would have given way.

Drs. Murray, Locke, and Grandin also thought there was lack of proof that the obstruction had been due to adhesive bands which on giving way afforded relief. Dr. Grandin suggested long-continued fecal accumulation before the operation, but Dr. Halsey seemed to think it a sufficient reply to this suggestion that the patient had not previously been constipated, and had a free passage the morning before the operation.

SECTION IN SURGERY.

Monday, November 16, 1891.

Dr. William T. Bull, Chairman.

Tubercular Osteitis of the Knee.—Dr. V. P. Gibney showed four cases illustrating final results in the surgical treatment of tubercular osteitis of the knee, operated upon at the Hospital for the Ruptured and Crippled. All the patients showed a restoration of power, sufficient to give a useful limb, enabling the subjects to be self-sustaining in different occupations, though there was a shortening of from three to five inches in the affected limb subsequent to operation, and various forms of or-

thopædic apparatus were required to overcome the disability from this shortening.

Transplantation of Bone for Ununited Fracture of the Tibia.—Dr. B. F. Curtis exhibited a patient illustrating an operation for transplantation of bone for ununited fracture of the tibia. The patient, a man, thirty-three years of age, had been caught last January in the machinery of a planing-mill and his leg thrown against a pulley and broken. Both the tibia and fibula were involved, the fracture having been a compound one, the fragments protruding more than an inch. The femur had been broken at the same time low down near the head of tibia. Under ordinary measures the fracture behaved badly, necrosis occurred in the tibia, about one and one-half inch of the bone was destroyed, it refused to unite, and a gap was left of about an inch. He was admitted to St. Luke's in June. The left lower extremity measured upon admission 33⅜ inches; the right, 35¾ inches.

June 4th Dr. Curtis cut down on the tibia and found that the ordinary operation of cutting away the ends of the fractured extremities and uniting or approximating them with wire sutures would give so much shortening in this case as to result in great deformity. He therefore had cut down on the fibula and cutting out a segment of this bone he pushed it with his fingers, without exposing it to the air, through the soft tissues and into the gap in the tibia. Firm union had subsequently taken place and the man could bear his entire weight upon the fractured limb two months after operation. He used a crutch still, as he had only been walking about for some two weeks.

Trephining for Relief of Paralysis and Convulsions from Cerebral Hemorrhage.—Dr. A. J. McCosh exhibited a boy aged seven upon whom he had done successfully the operation of trephining for the relief of recent paralysis and convulsions. In August last the boy fell down stairs and was found lying in a semi-stupor at the foot of the stairs shortly after. He remained semi-comatose for twenty-four hours after he was brought to the hospital the next day, only rousing up when violently shaken or otherwise so disturbed. There was no sign of injury to the scalp and no paralysis of motion or sensation upon his examination at the time of admission. On the third day the stupor lessened and signs of cerebral irritation appeared. The legs were drawn up and the arms flexed, the boy only slightly noticing his surroundings. On this day (third) it was noticed that he could not speak intelligently, and that he was quite irritable. The fifth day he was less irritable in temper and spoke. The next day his mind was clearer, but movements of the left upper extremity were sluggish. On the seventh day this impairment of motion was more marked, and there was also loss of power in the leg and face of the same side, with twitchings of the muscles. During the latter half of this day the boy had repeated convulsions, distinctly localizing in significance the movements, beginning in the arm, which was paretic, and thence extending. The eighth day he was found to be affected with a complete left hemiplegia. The diagnosis was made of pressure from clot over the right motor area for the arm, face, and leg of the opposite side, and it was decided to trephine at once. On lifting up the scalp and exposing the skull the bone was seen to be perfectly healthy. The fissure of Rolando having been previously marked out a button of bone was removed over the præ-central convolutions in front of the Rolandic fissure. On exposing the dura mater it appeared normal for the most part, but at the posterior extremity of the trephine opening the edge of a blood-clot was seen. With the rongeur forceps more bone was removed, exposing a large circular clot which covered the mid-portion of the Rolandic fissure and the adjacent præ- and post-central convolutions. The clot was carefully washed away and underneath was found a tear about an inch in length in the dura, due to a spicule of bone, which was removed. The underlying brain-tissue was found to be a grumous-looking, broken-down mass. This was carefully washed away, the dura wound closed, and the scalp flap brought over the wound and closed with provision for drainage, no bone being replaced. The boy had made violent resistance to the anæsthetic (chloroform) with his right arm and leg when undergoing the operation at first, but did not move the left side of his body. On coming out of the anæsthesia he moved the left arm also, and kept up this movement for half an hour, after which the left side remained paralyzed as before for twenty-four hours. The paralysis then began to improve, and the boy now has equal strength on the two sides. He has not had any convulsions since the operation. The convalescence was uneventful, the wound of scalp healing readily.

Hysterectomy for the Cure of Prolapsus Uteri.—Dr. McCosh, in the absence of the patient, showed a photographic representation of a prolapsus uteri upon which he had recently operated by hysterectomy. The patient was a washerwoman and had suffered from prolapsus for some time, though, until shortly before operation, she had been able to continue her work. When admitted to the hospital the prolapsed mass protruded outside the vulva as a tumor, the size of a Derby hat. Attempts to replace the mass were utterly futile, even after three weeks' rest in bed and the most assiduous employment of all ordinary measures to reduce it in size. The mass consisted of the uterus, twice its natural size, with elongated cervix, the bladder on the anterior surface of uterus, and the thickened cervico-vaginal wall. The operation of hysterectomy was decided upon and done with very gratifying results, the patient now being able to attend to her household duties and ordinary work without discomfort. Hysterectomy in such cases, according to the experience of the speaker in this and some three or four similar cases, was a most tedious and difficult procedure. This was due to several factors, among others, the attachment of the bladder to the uterus, requiring great care in its removal, and also on account of the very large bleeding surface left after operating. The elongation of the cervix in such cases, being, as he had observed it, from three to four inches, with its attachment of vaginal mucous membrane requiring separation, was another tedious factor.

Skin-grafting by Thiersch's Method.—Dr. C. A. Powers exhibited to the Society a middle-aged woman from whose nose he removed a papillomatous tumor about as large as the first phalanx of the index-finger. The exceedingly rich vascular supply of the tumor had necessitated the use or numerous cat-gut ligatures to control the hemorrhage. This he had found would be likely to interfere with the success of grafting with a single piece of skin, so desirable from an anæsthetic or cosmetic standpoint, and he had therefore used three skin-grafts instead of one. The result, as shown in this patient, afforded a very happy illustration of the value of skin-grafting by Thiersch's method.

The Chairman, Dr. William T. Bull, in connection with the subject illustrated in Dr. Powers's patient, and as *apropos* to the reference made by the latter to the cosmetic advantages of a single graft, showed to the Society a photograph of a patient upon whom he had been able to successfully carry out this procedure to remedy the deformity resulting from a deep "pit," left by an operation upon the patient's face.

In the general discussion following the exhibition of cases, Dr. Dawbarn asked Dr. McCosh, in connection with the case of trephining done by the latter, if pus was found upon exposing the brain, since, if such had been the case, an attempt at bone-grafting would have resulted in failure. He was reminded by the history of Dr. McCosh's case of one he had himself operated upon just a year ago. A man had been struck on the head in a political altercation and several days afterward, when seen by Dr. Dawbarn, he was in a semi-stupor, with elevated

temperature (101° F.) and hemiplegia. There were two wounds of the head, on opposite sides; one of them corresponding exactly to the motor area, affection of which was supposed to be responsible for the man's hemiplegia of the opposite side. The patient was taken to the Polyclinic Hospital. Dr. L. C. Gray saw him in consultation. Dr. Gray agreed with the speaker that there was pressure, probably from hemorrhagic clot, over the motor area corresponding to the wound of scalp with beginning inflammatory action as evidenced by the febrile reaction. The skull was trephined and the dura mater exposed, bulging through the opening, but looking perfectly healthy. The brain was explored in every direction, but nothing found, although the exploratory puncture reached the lateral ventricle several times, as shown in an escape of cerebro-spinal fluid. The bulging of the brain encouraged the idea that something would be found and another trephine opening was made on the same side, a little farther back, the first having corresponded to the wound in the scalp. The second opening revealed nothing to accouut for the patient's symptoms, the man dying six hours after operation. At the autopsy nothing abnormal was found in the brain on the side opposite the paralysis, but on the other side (the same upon which the paralysis existed) there was present a very large blood-clot, pressing upon the motor centres. In answer to a note written to Dr. Gray, stating the facts of the autopsy, he had received a note from him in which Dr. Gray expressed the belief that the only explanation of the case was that there was no decussation in the pyramidal tracts of the pons-medulla in this man's case, a condition he had only met with once or twice before. Dr. Gray asked for the brain and pons-medulla removed at the autopsy, which he examined after hardening and staining, finding, as had been anticipated, that there was no decussation in this case.

Dr. Dawbarn drew the lesson from his experience in this case that hereafter he would follow his physiology in such cases in a first operation, but failing to find anything, he should do his second trephining on the opposite side.

Dr. Joseph D. Bryant had recently had a case similar to Dr. McCosh, and was also reminded of two cases like Dr. Dawbarn's which had come within his knowledge. In one case, his own, the lesion had been found on the same side as the paralysis, the patient having been one he had seen in the service of Dr. Janeway, who had called upon him to operate, the patient dying, however, before the operation was done. Another case similar to Dr. Dawbarn's had been reported to him in a private letter from a former student, who had asked him to explain the contradiction of teaching with his case, which letter Dr. Bryant had not yet answered.

Dr. Manly described a recent case of trephining which he had done, the results being quite satisfactory, except that a hernia cerebri had resulted. He desired to hear an expression of opinion from those present as to the best plan of treatment for this condition so as to bring about a rapid cure.

Cases Illustrating Some Difficulties in the Use of the Cystoscope.—The first paper of the evening, entitled as above, was read by Dr. L. B. Bangs. The writer had no special preference between the two instruments manufactured by Mitze and Leiter. The recent French cystoscope he considered as cumbersome and unnecessarily complex. Practice was required before efficiency could be attained in the use of any cystoscope, and even with the most skilled practice there were several difficulties to be encountered which, in some instances, rendered the instrument of little practical value. He described the case of a patient, illustrative of one of these difficulties, because of free hemorrhage in the bladder so obscuring the field as to make a cystoscopic diagnosis of its cause impossible. Bimanual examination and the sound disclosed a growth, presumably papillomatous, which was operated upon by the supra pubic method, and the diagnosis confirmed, with relief and cure for the patient. Another difficulty he had encountered was the presence of optical illusions, giving rise to a false diagnosis. By too close an approximation of the beak of the instrument to the vesical wall, one sometimes got a false visual impression, and a fold of the bladder might be readily mistaken for a neoplasm. Exactly such an experience had befallen the writer. He had opened the bladder to find the tumor not present when he thought he had seen it, though other small gray or whitish patches, which had been observed also, were found to be malignant and removed with relief to the patient. Dr. E. Harry Fenwick had called attention to this liability to error in the use of the instrument, and he could confirm it. One observation he thought was never sufficient for a diagnosis with the cystoscope, because of variations in size, shape, etc., in different bladders.

In certain cases in elderly men with enlarged prostates and a tortuous urethra, the use of the cystoscope was attended with difficulty, and at times was impossible. Cocaine he had not found of any advantage in these or other cases. Notwithstanding these difficulties, the writer was a firm advocate of the use of the cystoscope as a means of diagnosis, and considered it of the greatest value.

Dr. W. K. Otis, in the discussion which followed, remarked that hemorrhage, if sufficient to obstruct the view with the cystoscope, could not be from the kidney, as hemorrhage from the kidney was slow through the ureters, and it was easy to tell by the discharge through the ureter which kidney was affected. One cause of difficulty and error in the use of the cystoscope was to be found in the spherical aberration of the instrument itself, and this was especially true of the French instrument, through which a penny looks like a globe. He was now trying to devise one which would give a flat field. One advantage of the French instrument existed in one's ability to determine the exact size of a tumor or growth in the bladder. This could be done by means of the scale on the telescope and by gauging the focus.

Dr. Willy Meyer thought that sufficient importance had not been laid upon the fact that, in every case, as much as five ounces of water should be used to distend the bladder. If this could not be done at first, he stretched the bladder by repeated injections, using a hand syringe and not a fountain. In cases of hemorrhage, wait, if possible, for hemorrhage to cease. The cystoscope could not be used when the urethra would not pass a No. 23 sound. In the case of Dr. Bangs's patient, which he had seen with him, in which the cystoscope gave a false visual impression, the bladder had not been sufficiently distended, as only four ounces of water had been injected.

The Chairman, Dr. Bull, asked Dr. Bangs if he had ever known the use of the cystoscope to be followed by any dangerous or injurious consequences to the patient.

Dr. Bangs, in reply, stated that he had never personally seen any bad effects, but recently, while in Washington, he had heard of a case in which the bladder-wall was burnt through the use of the cystoscope. He could readily see how this was possible, since, in experiments upon the phantom bladder, he had found that the finger placed near the beak of the instrument, and kept there for a time, became uncomfortably warm, in spite of the surrounding volume of water.

Considerations upon Medical Hemorrhage Surgically Treated.—Dr. R. H. M. Dawbarn read a paper with this title (see p. 1).

In the discussion which followed Dr. Van Arsdale stated that his experience had been the opposite to that of the writer of the paper, as regards the value of saline solutions. They had proven of little value, while he had seen immediate and striking benefit from the transfusion of blood. His experience with the infusion of a saline solution had been limited to only five or six cases he admitted, and he therefore felt some hesitation in advancing

any decided opinion as to the relative value of the two methods.

The Chairman, DR. BULL, had many times proven the value of saline infusions of hot water in cases of hemorrhage, and kept on hand constantly in his operating-room the salt mixed with bicarbonate of soda in quantities proportioned for the water to be used. As regards puncture of the femoral artery, he thought it would be wise to wait until Dr. Dawbarn's experience should become more extended before adopting this measure, as there might be serious damage resulting from a puncture, no matter how small, into the walls of so important a vessel.

DR. DAWBARN closed the discussion.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ALBUMOSURIA AND ITS SIGNIFICANCE—THE RECENT OUTBREAK OF EPIDEMIC SKIN DISEASE—THE COLLEGES OF PHYSICIANS AND SURGEONS—THE JOURNAL OF PATHOLOGY—LONDON WATER-SUPPLY—INFLUENZA—THE NEW UNIVERSITY.

LONDON, December 5, 1891.

MEDICAL terminology is apparently endless and is ever-changing, to the no small bewilderment of practitioners who get a little behind the times in their acquaintance with current medical literature. We are, it seems, no longer to speak of peptonuria but of albumosuria. A paper on this subject, by Drs. Lee Dickinson and W. K. Fyffe, was read before the Clinical Society last week, in which an account was given of twenty cases of pneumonia and allied conditions in which the urine contained albumose. The method employed to examine the urine was to first remove from it such proteid as was coagulable by heat, and then to treat with nitric acid and the biuret test. To apply the latter, a twenty per cent. solution of caustic potash or soda containing a little sulphate of copper was employed; the urine was floated upon the surface of this dense solution and a positive result was indicated by the appearance of a pink color at the junction of the two fluids. In no case was true peptone found, but whenever the biuret reaction was obtained it was found to be due to albumose, which could be precipitated by ammonium sulphate. The albumoses met with were proto-albumose and dextro-albumose, and sometimes occurred in large quantity (more than one per cent. when the urine was more copious than natural). Judging from experiments on animals, it seemed possible that the diarrhœa from which many of the patients suffered might have been due to the passage of albumose through the blood. Although their cases were characterized by their high mortality and their serious sequelæ (apart from empyema), the authors thought it probable that, other things being equal, albumosuria was a favorable sign in severe pneumonia and other cases, for this sign was absent throughout in some most virulent and fatal cases with extensive hepatization of lung. The origin of albumose was pus, or at least inflammatory exudation, especially that of pneumonia, and it was likely that it was formed by the agency of micro-organisms.

The recent remarkable outbreak of epidemic eczema at the Paddington and other metropolitan infirmaries formed the subject of discussion at the last meeting of the Medical Society of London. Dr. Saviel, medical superintendent of the Paddington Infirmary, opened the discussion by giving an account of the disease as he had seen it. Out of 846 patients 163 were attacked (89 males, 74 females). The disorder was attended by a certain amount of constitutional disturbance and ran a more or less definite course of seven or eight weeks. The skin lesion commenced sometimes as a papular or papulo-erythematous rash, sometimes as raised maculæ, and occasionally as rings. In all cases, however, the eruption became confluent in from three to eight days, and a crimson, irregularly indurated surface resulted which was continually shedding its cuticle in scales or flakes of various sizes. In a large proportion of the cases vesicles formed, which burst, giving rise to a serous exudation. One hundred cases were of the "moist" type, 45 were of the "dry" type, and 18 were "mixed." Convalescence was tardy, and 38 patients had relapses. Anorexia and prostration were the chief constitutional symptoms. The conjunctivæ were inflamed in all the severe cases, and in those where the face was involved. In half of the cases in which the urine was examined albumin was found. Twenty-eight patients died. Death sometimes resulted from collapse following on the vomiting or diarrhœa (which was present in a quarter of the cases), or more generally from asthenia; some patients died comatose, as in uræmia. Dr. Saviel connected two symptoms with a fatal issue—muscular twitching and dyspnœa without physical signs in the lungs. The cases which began as maculæ bore some resemblance to German measles, but pyrexia was absent and desquamation was extreme. The "dry" variety strikingly resembled pityriasis rubra, but differed in that it was epidemic and children were almost exempt. The liability to the eruption increased with advance in life, the average age at death being seventy-one. The only treatment which proved serviceable was the external application of germicides and the administration of stimulants.

Mr. Lunn, Medical Superintendent of the Marylebone Infirmary, said he had had 193 cases under observation, of which number 23 proved fatal, and in 10 of these death was certainly due to the skin disease. No treatment availed to check or modify the eruption, which had an average duration of six weeks.

Dr. Richards, of Hanwell Asylum, said he had met with 38 cases, apart from earlier cases which might have been overlooked, which was equal to about three per cent. of the inmates of the Asylum. None of the cases proved fatal, which might be due either to the effect of fresh country air or to the fact that his patients were in better condition physically than the aged and debilitated inmates of workhouse infirmaries.

With regard to the nature and etiology of the affection somewhat diverse views were expressed by the speakers on Monday evening, and no definite conclusion can be said to have been reached. Dr. Richards opined that it was a post-influenzal manifestation. Mr. Startin thought the eruption resembled what had been described by Dr. Croker as superficial erysipelas; he regarded it as certainly of external origin—as bacterial rather than neurotic. Dr. Stephen Mackenzie suggested the use of the term exfoliative dermatitis as describing the disease without involving any theory as to its pathology. He remarked that similar cases occurred sporadically, and he supposed that there must have been special circumstances of environment to account for its epidemicity in these instances. Dr. Radcliffe Crocker drew attention to the fact that in a large proportion of the cases the glands were enlarged as in rötheln; he was inclined to consider the malady a local one to begin with. Dr. Downes, of the Local Government Board, said he had made inquiries at a large number of provincial workhouses, but in only one did there seem to have been any excess of general eczema, and nothing at all answering to the disease as seen in London.

There are signs in the air of an approaching "split" between the Colleges of Physicians and Surgeons. A few years ago they entered into a joint arrangement to issue their diplomas only in conjunction with one another, and the so-called "conjoint board" was formed. This working arrangement, however, is terminable at a year's notice, and it is quite possible that it may be thus brought to an end before very long. The first sign of a probable dissolution of partnership is the application just made to the Medical Council by the College of Physicians to have its license and membership recognized as registrable without

the possession of any distinct surgical qualification. This certainly foreshadows a disposition on the part of the College of Physicians to "paddle its own canoe." The Medical Council resolved, on the motion of Sir William Turner, that the College should be left to make good their claim in the way they might think fit, seeing that it would be contrary to the Medical Act of 1886 (which forbade the registration of "fragmentary" diplomas) for the Council to admit it. We have here the beginning of a very pretty quarrel if pursued to the bitter end. When the Conjoint Board was first formed the College of Physicians undoubtedly had the best of it, for by the arrangement then entered into every student who took the diploma of the College of Surgeons—and nearly every student did—was bound to take the license of, and pay fees to, the College of Physicians also. It is doubtful whether the latter College has anything to gain by resuming independent action, but it is difficult to see what else it can have in view by the application to the Medical Council. The decision of the Council promises to land them in the law courts. While the matter was under discussion Mr. Bryant (the representative at the Medical Council of the College of Surgeons) remarked that the College of Physicians had undoubtedly exceeded its powers, and he was glad its irregularities were about to be put an end to. Coming from such a quarter, this remark was certainly ominous of some disturbance of the harmonious relations between the two Colleges.

A new medical journal is announced to appear shortly, to be called *The Journal of Pathology*. It will record the progress of original pathological research, and contributions from many of the leading workers in that field are already promised.

The London County Council and the Corporation intend to promote jointly bills in Parliament relating to the water-supply of the metropolis. It is therefore to be hoped that we are within measurable distance of the time when a purer supply will be provided.

Influenza has reappeared in this country, but has not yet reached the metropolis.

An opposition to the proposed new Albert University for London is being organized.

THE OTHER SIDE OF THE MATERNAL-IMPRESSION QUESTION.

To the Editor of the Medical Record.

Sir: After reading some of the letters which you are now publishing in regard to maternal impressions, I am impressed with the truth that there is nothing so false as figures, nothing so deceptive as facts. It seems to me that if the reporters of these astounding phenomena were to attempt some explanation, the valuable space of the journal would be better filled than with the rehearsal of what appears to reason and common-sense as ridiculous. I do not wish to doubt the veracity or powers of observation of those who have reported some of these remarkable cases of maternal impression, but I am inclined to think that they have been imposed upon by hysterical women, or that the deformity of the child was a mere coincidence, due to some direct uterine cause. The imagination is a strange faculty, and, when allowed full play in a woman who has been disappointed in the birth of a deformed child, it can easily discover comparisons and concoct absurd stories for the purposes of explanation. When we remember that the fœtal deformity in these cases is usually of a traumatic character of ovarian or uterine origin; that while the physician sees the child himself, in almost every instance he has to depend upon the word of the mother for the event which is said to have preceded and caused the deformity; that when this causative event took place, the mother has usually been so excited or shocked as to seriously modify the value of her testimony in regard to it; that after the birth of the deformed child there is an almost irresistible motive on the part of the mother to offer some explanation, however absurd to science it may appear; and, finally, that no one has yet been able to prove that the deformity occurred in the fœtus at the time of the said event (a proof which is only possible by an examination of a fœtus aborted, say, immediately after one of the usual causes given for these so-called impressions)—when we remember all this, it alone is sufficient to throw discredit upon such marvellous tales.

But what are we to think of these wonderful reports when examined in the clear light of modern science? Either that the lessons of embryology have been overlooked or never learned by those who believe them, or else that they are making sport of the intelligent part of the profession by repeating the superstitious notions of imaginative and interested women.

Do maternal impressions ever occur among the lower animals? I have never heard of such, though among some of the more timid creatures frequent opportunity has not been wanting.

Could a sitting hen give a maternal impression to one of her little chicks still unhatched in the nest? I think I see an ominous smile upon the face of the reader, and yet such a suggestion is hardly more ridiculous than that a human mother can give a maternal impression to the fœtus within her womb. After the ovum has left the Graafian follicle, its principle of development resides solely within itself, and there is no direct connection whatever between the fœtal and maternal tissues. The only interchange between the elements of the mother and child is by way of the two systems of circulation brought in approximation at the placental membranes; and practically, the child within the womb is as much beyond the maternal influence as the chick within the nest. There is a possibility of chemical influences being transmitted from the mother to the child through the blood; and it is probable that certain nervous influences are exercised in the same way, *i.e.*, through some alteration in the chemistry of the blood. This explains why the mother may transmit certain diseases to her offspring, but it will never explain why that mother, by looking at a man with a deformed nose, for instance, will cause the nose of her child to be deformed. The simple statement of the case reveals its untenability.

While the ovum is still one of the maternal cells, that is, before it has started out upon its own life-history within the Graafian follicle, a maternal impression may be conferred upon it, for it will then receive the same influence that every other cell in the whole maternal organism receives. It may be similarly influenced by the direct contact of the paternal element, the spermatozoon. These two influences, however, we speak of as heredity; but heredity is not a cause of the wonderful cases of maternal impression reported from time to time in the medical journals. Let us have done with such superstitious notions. Enough marvels of that sort are already on record for the purposes of study. Let those who desire to exploit their abilities in this department of obstetrics cease to listen to these vagaries of the feminine mind, and explain, if possible, how they propose, rationally and scientifically, to account for these so-called maternal impressions. Valuable space in our journals will thus be reserved for something more practical and instructive, and common-sense will not be offended with the periodical report of these tiresome, worn-out notions of a bygone superstition.

L. Harrison Mettler, M.D.

Chicago, December 15, 1891.

Ghostly Dentists.—A man out in Ohio who was suffering from a severe toothache and consulted a spiritist medium for relief, was told to go to bed and the relief would come. He obeyed, and upon recovering consciousness he found a blood-stained pillow and the offending molar on the sheet. He is deliberating whether it was nitrous oxide or spiritism, but is glad his tooth is out anyway.

SANITARY HORSEBACK RIDING.

To the Editor of the Medical Record.

Sir: After one has lived for even a few months in the Far West the subject of horseback exercise becomes a topic most absorbing.

The pure air and almost constant sunshine invite one to lead an out-door life. The shady mountain passes, with the constant change of superb views, from cañons to peaks, and the glimpses of the vast expanse of plains with an horizon like the ocean, tempts one to take exercise which otherwise they would probably not have strength or energy to do. Then to canter on the prairie is so fascinating that one scarcely knows when to stop. "To sleep in a tent and live on one's horse by day" is a prescription that has saved the life of an otherwise doomed mortal; but I am sorry to say that I fear that it has been greatly abused, and that rash exposure has been guilty of taking to an early grave many who otherwise would have grown well and strong.

It should be remembered that riding, even walking, one's horse gives no little exercise; it is naturally fatiguing, indeed exhausting, and one should bear in mind an axiom in the treatment of pulmonary diseases—never to fatigue, but to exercise gradually as the strength increases.

Time and again doctors have told me that patients have come to them in various stages of consumption, some, indeed, in a very debilitated and dangerons condition, buoyed by hope and armed with instructions from the home doctor "to sleep in a tent and take plenty of horseback exercise." Carrying out this advice a fatal hemorrhage would probably prove its harmfulness.

In the studies that I have made in various forms of physical exercise especially beneficial to children and delicate women, I have been impressed with the fact that the perfection of exercise was that which moderately brought into concerted action all the muscles of the body and tended to symmetrically develop the individual, and that well-sustained exercise of this character equalized the circulation, produced no congestions or strain, and stimulated arterial and venous flows. For a man horseback riding possesses all these qualities; but, strange to say, the woman is so hampered by fashion that I am more and more impressed with the fact that in a large number of cases riding with the side-saddle does far more harm than good.

I have thought this matter over carefully, and am prepared to state most emphatically that I believe the time has come when the side-saddle should be abolished. The position a woman assumes on horseback has three objections: 1st. The right leg being at an angle with the body and more or less fixed, the to-and-fro movements of the body cause more or less pressure upon the abdominal and pelvic viscera; the seat necessarily produces a slight spinal twist in the lumbar region, and should, as unfortunately is too often the case, a perfect fitting habit or a tight corset be worn, all these evils are exaggerated. 2d. The left leg, partly straightened, bears upon it the entire muscular strain; especially is this the case with the upper thigh muscles, whether or not the stirrup be used; and the pressure exerted against the pommel must necessarily retard the circulation in the venous and arterial trunks; this strain, which is always more or less on the left side, certainly must affect the pelvic viscera, especially the left ovary, should it have any tendency to prolapse or congestion—a frequent condition. 3d. I believe that this method of riding is unsafe, as it by no means gives a woman the control of her horse in cases of danger that she should have.

However straight a woman may try to hold herself in the position she assumes on a horse, she will gradually fall into the habit of a slight lumbar curvature to the left, and it stands to reason that, for one who rides a great deal, a want of symmetry in development on both sides will be sooner or later noticeable. I believe this is obviated to a certain extent in England by the movable pommel, the young rider being obliged to ride on one side one day and on the next the other.

I am surprised that those who have seen much of the diseases of women have not taken a more positive stand in this matter. There is no reason whatever, except the arbitrary dictates of fashion, why a saddle could not be so constructed that a girl could ride with equal comfort and grace as can her brother; moreover, she would get far better control of her horse, and there would be very much less danger of ovarian and uterine prolapses, bladder disturbances, lateral spinal curvatures, etc. Those who have had courage enough to try this innovation have assured me that the difference in comfort was remarkable.

In order to secure the advantages of riding astride, a woman should, I think, have a saddle constructed in a manner different from that used by men. This saddle should combine healthfulness, safety, and comfort. Healthfulness would require an erect symmetrical posture of the rider, freedom from angles that would interfere with perfect circulation and would prevent any strain or pressure on the pelvic organ. Safety would give a firm seat, sure control of the horse, and an easier mount than can now be accomplished. Comfort would come from freedom from restriction and an easy seat.

My idea would be to make a saddle based upon the following plan: The pommel to be somewhat of the Whitman type, but with a twenty-inch seat, a flat ladies' cantle with rolled edges; this would give sufficient length and would expand into a broad, comfortable seat. The rider, then, instead of assuming a perpendicular position, has the legs flexed almost as much as when sitting on a comfortable chair. There should be for this purpose a stirrup shorter than that worn by men; the flaps then could be padded very much as is now done in the Kentucky saddle. I feel convinced that this form of saddle would be found to be the most useful one that could be adopted.

John M. Keating, M.D.

Colorado Springs, Col.

THE DOSE OF PARALDEHYDE.

To the Editor of the Medical Record.

Sir: In the Clinical Department of the Record to-day, under the caption of "A Large Dose of Paraldehyde," Dr. J. Noer calls attention to a patient of his, "on the verge of delirium tremens," having taken two and one-half drachms in one dose, instead of fifteen minims every half-hour, which he had prescribed, and concludes by stating that "the maximum dose of paraldehyde is four grammes, or one drachm."

The doctor is mistaken. The maximum dose of paraldehyde is *not* one drachm. When conditions favor it may be given in doses of six, eight, or more grammes, without fear of ill effect.

Obersteiner, the eminent Austrian alienist, in the recent report of his private asylum, near Vienna, a copy of which was kindly sent to me by the author, and is now being translated by my assistant, Dr. Herbert Adams, says: "Paraldehyde, soon after its discovery, took a place next to chloral as a hypnotic. It can be used in all cases where it would not be prudent to use chloral. It is a valuable and scarcely replaceable medicine among our therapeutic agents. We never give above the medium dose of six grammes, but four to six grammes are often insufficient, and to obtain satisfactory results one must use much larger doses. It is possible to take twenty, yes, even forty grammes, daily."

Our usual dose of paraldehyde is two drachms. We have used it for years, prize it highly, and have never noted ill effect.

We certainly should not expect a man "on the verge of delirium tremens" to sleep by taking fifteen-minim doses every half-hour for five hours. Better, by far, if clearly called for, give two or three drachms at once, and

then smaller doses, if needed. Some of our best soporifics—chloral, cannabis, bromide of sodium, etc.—often fail because of too timid dosing.

J. B. MATTISON, M.D.

BROOKLYN HOME FOR HABITUES, BROOKLYN, December 19, 1891.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 26, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	4
Scarlet fever	196	23
Cerebro-spinal meningitis	1	1
Measles	83	2
Diphtheria	152	46
Small-pox	0	0
Varicella	8	0
Pertussis	2	4
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

Laryngeal Diphtheria, according to Rosenberry, should be treated with the following:

℞. Ol. eucalypti,
Ol. terebinth ..... ää ʒ j.
Ol. vaselini ..... ʒ vj.
S.: Use in a steam atomizer every half-hour.

A Salivary Calculus.—Dr. George H. Pierce, of Danbury, Conn., reports the removal of a salivary calculus, which had been forming for twenty-seven years. A swelling was first noticed beneath the tongue, on the right side, of the gentleman from whose mouth the stone was removed, in 1864, at the time of his leaving the army. It had gradually increased in size until a tumor had formed which reached nearly to the level of the teeth, and was interfering with the speech. When I was consulted in November, the calculus had ulcerated through its enclosure at the top, which caused the gentleman some fear lest it might be a cancer. Upon inspection I thought at first of nothing but a simple ulcer, and proceeded to cauterize it with the solid stick of nitrate of silver. As I touched the surface I struck something hard like a stone, and upon further investigation estimated that it was about the size of a large marble. I made an incision along the upper margin of the tissues enclosing the stone, and extracted it without difficulty, by catching it with pincers. It lay loose in the tissues. Instead of being spherical the stone was oblong in shape, being 1⅜ inch long in its greater axis, and ½ inch in its lesser. It weighed sixty grains and was quite compact. The cavity healed in a day or two.

"Le Languedoc Médical," is the title of a new medical journal established in Toulouse under the editorial direction of Drs. J. C. Artigalas and A. Rémond. The first number contains articles on "Tracheo-bronchial Adenopathy of Hereditary Syphilitic Origin," by Dr. Artigalas, and on "Nervous Polyuria," by Dr. Rémond, in addition to the ordinary society reports, etc.

Leprosy in Bokhara.—It is said that leprosy prevails to a considerable extent in Bokhara, and indeed that the focus of the disease for the whole of Central Asia is found in a certain quarter of the city of Bokhara. Since the country has come under Russian influences the Emir has been prevailed upon to take steps for the isolation of the lepers in his dominions, as well as to establish a special hospital for them where they may be treated by European experts. At present they roam about wherever they will without any restraint whatever.

A Spanish Edition of "La Semaine Médicale" has been decided upon, to appear simultaneously with the original.

Physicians Wanted for Jewish Colonies.—The Jewish Colonization Association advertises in the German medical journals for physicians for their Russian Jewish Colonies in South America. Applicants must speak German (those who can also speak the Jargon will be preferred), have had hospital experience, and must sign a contract for three years' service. Further information can be obtained from the director of the Association in Paris, Dr. Sonnenfeld, 36 Rue de Bellechasse, to whom also applications for appointment should be directed.

As Their Tailors See Them.—A writer in a French contemporary says that a comparison of some fifty tailors' patterns of thirty years ago with an equal number of those used to-day shows that eighty per cent. of the young men of the present time are hollow-chested and round-shouldered; the shoulders are sloping, the neck projects forward, and the hips are prominent. We fear the writer of the article is an old fogy who sees no good in this degenerate *fin de siècle*, or else the young men in France are very inferior to the youth in this country.

A Medical Journal in Guatemala.—The turbulent little country of Guatemala has now a medical journal called the *Gaceta Médica Quezalteca*, which is published in Quezaltenango twice a month.

Antipyrin Asthenopia.—A writer in *The Lancet* relates a case of impairment of vision for distant objects coming on rather suddenly in a man, aged thirty-two, who had been using antipyrin pretty steadily for several months. The writer is inclined to put the blame for the impaired vision upon the antipyrin, and asks if any others have seen a similar effect from the use of the drug for long periods.

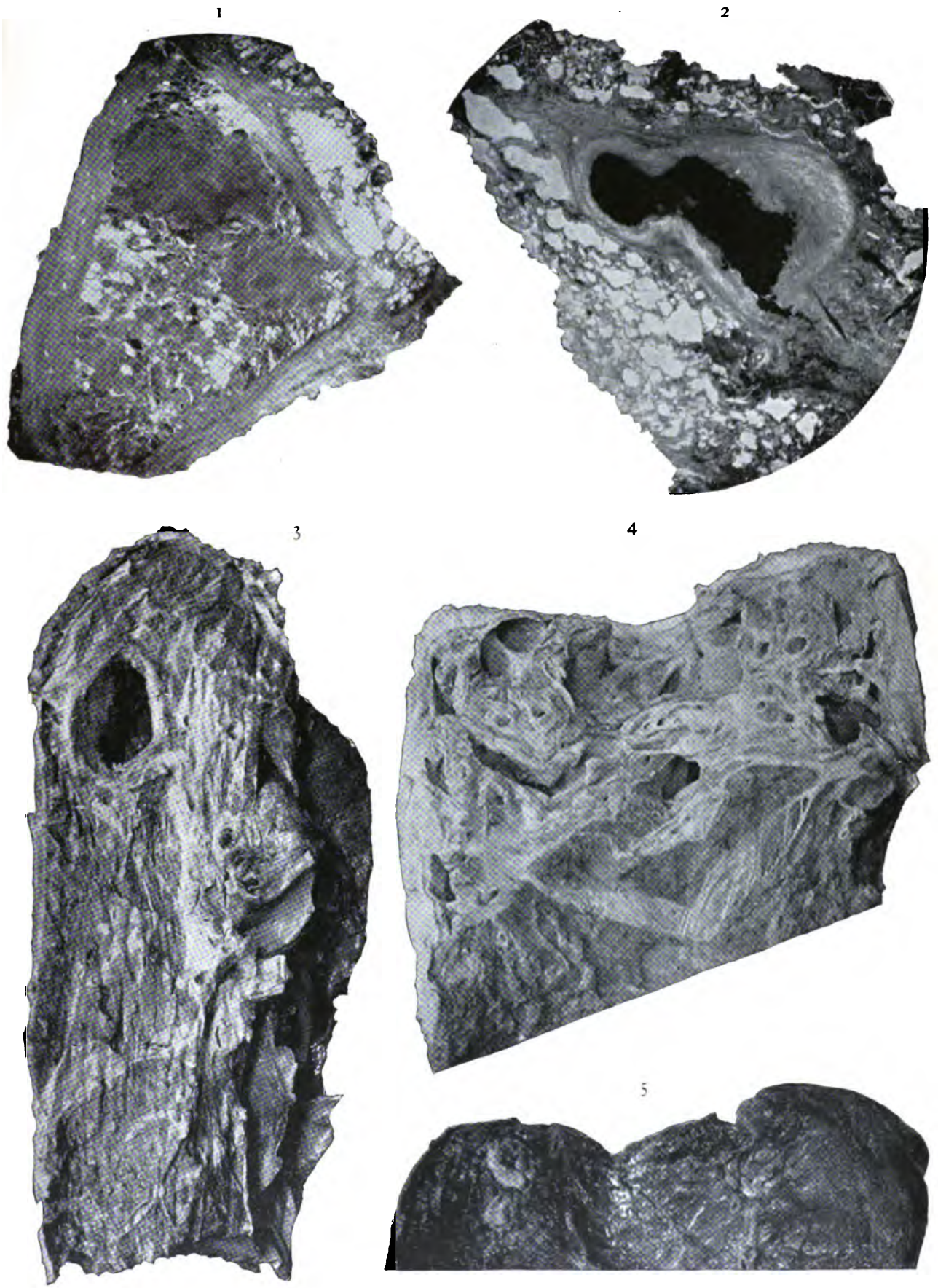
An International Congress for the Study of Prostitution.—The Paris Municipal Council is about to organize an international congress for the study of questions relative to prostitution and the spread of venereal diseases. It is proposed to hold the congress in Paris in 1893. Not only medical authorities, but jurists, hygienists, and political and social economists will be asked to take part in it.

To Relieve the Surplus Nursing Energy.—The Wesleyan Church in England is about to establish a hospital of its own, the alleged reason for doing so being to give the female members of the sect an opportunity to nurse the sick. They say that they are now denied the privilege in the hospitals under the religious control of the Established Church. That's a grand idea, and we hope the Wesleyan doctors also approve.

The University of Lemberg is about to be blessed with a medical faculty, the Emperor of Austria having approved of the proposal to establish one. It is thought it will be ready and in good working order by the autumn of 1894. Well, we should hope so! Oklahoma will have two or three medical colleges in full blast by that time.

A Folk-lore Remedy for Whooping-Cough.—Dr. E. V. Hunt writes to *The Lancet* that while staying at Folkestone recently he got into conversation on whooping-cough, one day, with a bath chairman. The man said that he knew of a certain cure for this complaint, which was to cut some hair from the nape of the child's neck, put the hair between two pieces of bread and butter, and make a dog eat it. He said the dog caught the whooping-cough, and probably died of it, but the child recovered. On rather strong doubts on the point being expressed by the listener, he asserted it was positively true, for it had proved a cure in the case of his own children.

Photophobia, with dilatation of the pupil, is said by Huguin to be an early diagnostic sign in pertussis before the whooping stage comes on.



CURED PHTHISIS.

1. Photo-micrograph. Tubercular area enclosed by new connective tissue.
2. Photo-micrograph. Contracted cavity surrounded by
3. Healed cavity.
4. Upper lobe replaced by fibrous tissue.
5. Fibrous nodule at apex.

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Original Articles.

A STUDY OF THE PROCESSES WHICH RESULT IN THE ARREST OR CURE OF PHTHISIS.[1]

BY HENRY P. LOOMIS, M.D.,

NEW YORK.

I HAVE endeavored, in a series of observations extending over the past two years, and by the aid of abundant material which has come to me during my service as Curator at Bellevue Hospital, to obtain some explanation of the following anatomical changes which form a part of the morbid anatomy of pulmonary tuberculosis:

1. In what proportion of cases met with on the autopsy table are found the evidences of cured pulmonary tuberculosis?

2. What are the gross and microscopical appearances presented by the lungs in these cases, and by what histological changes was the cure effected?

3. In the healed lungs, are tubercle bacilli still present?

4. How often are the evidences of localized or general adhesive pleurisy found, and what effect have such pleuritic changes had on the pulmonary structure?

Anyone who has the opportunity of making a large number of autopsies soon becomes impressed with two facts: First, it is the exception to find perfectly normal lungs, or lungs which are not more or less firmly bound to the chest-wall by old pleuritic adhesions, either localized or general. These adhesions are sometimes so firm and dense that the lungs can only be removed with the costal pleura attached. Secondly, the number of cases where the lungs must at some time have been the seat of an active and often extensive tuberculosis, yet at the time of death all traces of active processes have disappeared and the destroyed pulmonary parenchyma been replaced by fibrous tissue.

This tissue generally shows itself at the apex of otherwise normal lungs, as firm, dense, circumscribed masses, which vary in size from a half to two inches in diameter, and have in their centre cheesy or calcareous concretions. Sometimes a small and completely encysted cavity is met with in otherwise healthy lungs. For a long time, I have been convinced that the evidences of a cured phthisis are present, much more frequently than is generally supposed, in the lungs of those who present no signs of the existence of phthisical processes at the time of death. This impression has been confirmed by a study of the carefully recorded reports of 1,146 post-mortem examinations made at the dead house of Bellevue Hospital. Those reports which were incomplete have not been included in this study. Of these 1,146 autopsies, 383 were made on persons who died either from tuberculosis, or showed in their organs an active or chronic tubercular process. This left 763 autopsies made on non-tubercular subjects; of these, 276, or thirty-six per cent., showed lungs which were bound by organized adhesions, either general or local, to the chest-wall In all of these 276 cases the lungs were free from disease, except the pleuritic changes which, in most instances, interfered materially with the perfect expansion of the lungs, as the study of microscopical sections made from the underlying pulmonary tissue clearly demonstrated. Of the 763 persons dying of a non-tubercular disease, 71, or over nine per cent., presented in their lungs changes which I regard as characteristic of healed pulmonary tuberculosis. Many writers on phthisis give the percentage of cases of cured phthisis as much lower. For instance, Dr. Williams, of London, out of 1,000 cases in private practice, states a cure was effected in 4.6 per cent.; Dr. Austin Flint, in 640 cases, says a recovery took place in 44, or 6.5 per cent.

These conclusions were reached from physical examinations, and not from post-mortem appearances. When we study tuberculosis from a pathological standpoint, we look more hopefully on the disease as amenable to cure. Vibert,[1] from the register of the necropsies made at the Paris morgue, found in 17 out of 131 persons dying from violence or sudden death the evidences of pulmonary tuberculosis which had been cured. This is a little over twelve per cent., and shows a higher rate of cured phthisis than that obtained by me. Joseph Coats, of Glasgow, reports that out of 103 persons dying of a non-tubercular disease, 20 showed in their lungs the evidences of healed phthisis; this is a little over nineteen per cent. The report of the Middlesex Hospital, compiled by Dr. Fowler, gives the arrest and cure of pulmonary tuberculosis in 177 cases out of 1,943 necropsies which were made by him; this is about nine per cent. Dr. Sidney Martin reported before the British Medical Association that in 445 consecutive post-mortem examinations he had found 42 cases of healed tuberculosis in the lungs, or 9.4 per cent. These 42 persons died of a non-tubercular disease; 7 of them of cancer. This relation between cancer and healed tuberculosis has been observed and commented on by all investigators in this field. As these percentages are much higher than those given by clinical observers it is evident that recovery from phthisis is more frequent than generally supposed. The class of cases examined at the Bellevue dead-house came from the lower walks of life, and during life were under the worst possible hygienic conditions, and yet nine out of every hundred furnished those pulmonary lesions which are evidences of cured phthisis. The question which may naturally be asked is, what are the lesions which are evidence of cured phthisis, and how can one say the disease is cured from the appearances which are found?

If by the term "cured phthisis" is meant a complete restoration of the affected portion of the lungs to a normal condition, we can say that it never occurs; but if it is meant that all pulmonary symptoms cease, that the patient has good health, and that the damage to the lungs is not sufficient to prevent an adequate use of their functions, and that the tubercle bacilli, if present, are rendered inert by the connective tissue which surrounds them, and are finally destroyed, then we can say that a cure takes place in very many cases—a number much larger than is generally supposed.

It is impossible to understand how recovery from primary or secondary areas of tubercular infiltration in the lungs can take place by absorption of the tubercular material, and the restoration of the lungs to a perfectly normal condition. If, then, every tuberculosis, although cured, leaves its permanent stamp on the tissues, what are the steps by which an exceedingly destructive process becomes arrested and cured?

In describing these changes, I will speak, 1, of their situation; 2, of their gross appearance; and 3, of their microscopical appearance.

[1] *Read before the Section on Practice, New York Academy of Medicine, December 15, 1891.*

[1] London Lancet.

The post-mortem appearances in cases which may be regarded as cured will necessarily vary with the extent of the tuberculosis and the stage to which it had advanced before its arrest. As phthisical processes are usually confined to the apex of the lung, the changes of repair were better marked here than elsewhere, although in a few instances these changes were found in other places, especially the posterior aspect of the lower lobes, and in the lower part of the upper lobe. On the basis of their gross appearance, I shall group my cases under the following heads:

FIRST.—*That class in which the apex of the lung is found adherent to the costal pleura, with a puckered and depressed condition of its surface.* Sixty of the seventy-one cases which form the basis of this paper showed this condition. On cutting into the lung, one or more dense fibro-cartilaginous nodules, varying in size from a cherry to a walnut, are seen beneath the depressed surface, or, if situated in the central portion of the upper lobe, are generally connected with the surface by easily recognizable dense bands of new connective tissue. In the centre of these nodules, a chalky mass is often found, sometimes soft, but generally of sandy consistency, and often studded with sharp spiculæ, as hard as bone.

Photograph 5 shows one of these nodules situated at the apex of the left lung. The puckered appearance about the nodules is due to the contraction of the newly formed connective tissue. The surface of the lung over the nodule was adherent to the costal pleura. The contents of the mass was cheesy, of a dark gray color, and contained no tubercle bacilli. In a few instances, the centre of the mass appears dense and cartilaginous, and the nodule presents the appearance of a solid body. Surrounding these nodules are laminated fibrous deposits, traversed by contracted, obliterated, or dilated bronchi. The nodules were generally circumscribed, round, or elongated, and surrounded by pulmonary tissue which appeared normal, although it was often found on examination to be only in part permeable to air, or to be the seat of well-marked emphysema.

In a few cases, the indurated portions of the lungs were not nodular, but diffuse and more extensive, and these were situated, not in the central portions of the lung, but in connection with the pleura. They consisted of dark-gray fibrous tissue, dense, tough, and often very hard, resembling cartilage, and contained no caseous residues, although generally some were scattered throughout the tissue, and appeared to be derived principally from altered bronchial secretions.

Photograph 4 shows the substance of the upper lobe of the right lung entirely replaced by new fibrous tissue. The pleura is greatly thickened. The rest of the right and all of the left lung were perfectly normal.

Often all trace of alveoli had disappeared. Connected with the thickened pleura are septa running through the lungs, composed of a condensed cellular substance intermingled with fibrous tissue. These septa from their whiteness form striking contrasts with the rest of the lung.

Photograph 3 shows a healed cavity in an otherwise perfectly normal lung. The wall of the cavity was nearly a quarter of an inch in thickness, and composed of dense, fibrous tissue. The cavity was empty. This is the best illustration of a healed cavity that I have ever seen. The specimen belongs to Dr. T. M. Prudden, who kindly loaned it to me.

SECOND.—*One of the most positive evidences that phthisis which has gone on to the formation of cavities can be recovered from, is the aspect presented by healed cavities.* Six of my cases showed this condition, and divided themselves into two forms:

1. Where the cavity was empty and communicated with a bronchus. I have met with but two of these cases and both of them were found in the central portion of the lung. The cavities are closed on all sides and lined with a thick, dense fibrous or fibro-cartilaginous membrane, sometimes half an inch in thickness. This forms an internal cicatrix analogous to a fistula. The cavity is kept open by adhesions of the lobe to the chest-wall. Sometimes these cavities are not empty, but partly filled with calcified tubercular material, or a fibro-cartilaginous mass due to vegetations from the wall of the cavity. The surrounding pulmonary tissue is rarely perfectly healthy, generally it is indurated, infiltrated with black pigment, and puckered by shrinking.

2. Most frequently the cavity was contracted to such an extent by the growth of fibrous tissue that it was almost obliterated and appeared as a linear cicatrix. I have often found this connective-tissue over an inch in thickness, surrounding what remained of a cavity.

Photograph 2. This is a photo-micrograph, showing the great increase of connective-tissue about a contracted and almost obliterated cavity. At the lower portion of the photograph new connective tissue could be seen forming in the alveolar walls.

The adjoining pulmonary tissue may appear normal, although, when examined, it is found to be generally the seat of emphysema, and to contain patches of interstitial pneumonia. The condensation and contraction in the pulmonary tissue causes the emphysema, and is, I believe, essentially connected with the spontaneous cure of pulmonary cavities. Sometimes calcareous concretions, like small, opaque, granular, or chalky deposits, are found in the centre of the cicatrix; these are the contents of the obliterated cavity. (In the young, the calcareous deposit takes place at the periphery, leaving a calcareous crust with a soft centre.) I found these internal cicatrices almost always accompanied by puckering of the corresponding surface of the lung, with depression of the chest-wall.

THIRD.—*Two cases have come under my observation where there had been a complete transformation of the whole of an upper lobe into a compact homogeneous mass of fibrous tissue, without a vestige of pulmonary substance.* Throughout the lobe were seen large numbers of dilated bronchi, many of them filled with calcareous matter. The whole lobe was impervious to air, uniformly pigmented, of a bluish-slate color, and presented none of the gross appearances of a tubercular process. This was only settled by a microscopical examination, which showed giant-cells in large numbers, mingled with tubercular and fibrous tissue. The tissue was scantily supplied with blood-vessels; many of the bronchial veins were obliterated, and the bronchi closed.

Black carbonaceous deposits are apt to take place during the healing process of phthisis, in the neighborhood of (cretaceous) concretions and cicatricial tissue; they may be circumscribed or diffuse, and give the tissue a bluish-black or slaty-gray color. In all lungs showing the changes of healed phthisis at the periphery, and in most of those where the changes are confined to the central portions, one will find the two surfaces of the pleura adherent. A marked depression of the lung was observed in 54 out of 71 of my cases, the surface being hard, uneven, and presenting a crumpled appearance. These depressions depend on the loss of substance of the lung, and the consequent contraction which it has undergone.

Microscopical Appearances.—Normally, in the human lung, there are prolongations of connective tissue passing in from the pleura, and dividing the pulmonary tissue into rounded, polyhedral compartments or lobules. These lobules are in turn made up of a number of primary lobules, composed of a collection of air-sacs or alveoli. The prolongations of connective tissue from the pleura or interlobular septa, as they are called, are quite broad, and easily recognizable by the naked eye, for they are usually rendered prominent in the human lung by deposits of inhaled carbon in their lymph-channels. It is this interlobular connective tissue which plays the most important part in the healing of pulmonary tuberculosis.

An examination of microscopical sections presenting

the evidences of arrested and healed tubercular processes, has led me to the following conclusions:

All fibrous developments result in induration, but it is not easy to determine how or why the tubercular processes were arrested, or how the final result was brought about.

The indurated portions of the lungs were either in the form of nodular or diffuse masses. In this latter and rarer form, cheesy or calcareous residues were scattered throughout the fibrous tissue. At the edge of the pulmonary tissue, destroyed by the tubercular process, in many sections, new connective tissue could be seen just forming. This seemed to be derived from three sources.

1. The interlobular connective tissue had been infiltrated with round cells which were becoming changed into new connective-tissue cells. In some, the interlobular septa had been increased ten-fold, and presented an effective barrier to the advance of the tubercular process.

Photograph 1. This is a photo-micrograph showing two broad bands of new connective tissue passing inward from the pleura, completely enclosing a tubercular area, and limiting the extension of the process. The bands are increased interlobular septa.

In all the sections, this interlobular increase was constant and most marked, and in a number seemed to be the primary change. The new connective tissue was highly vascularized.

2. New connective tissue forming in the alveolar walls was seen. In one section adjoining a contracted and encapsulated nodule, the walls of the alveoli presented all the stages of new connective-tissue formation—round cells elongating and becoming spindle-cells; spindle-cells changing into dense fibrous tissue; with, finally, contraction and obliteration of the alveolus and its place taken by new connective fibrous tissue.

I am aware that by many the participation of the slight amount of connective tissue in the wall of the alveolus in the general hyperplasia is denied, but it seems to me without question that it does occur.

3. The connective tissue around the vessels and bronchi had become greatly increased. The latter were often almost obliterated by the contractions of the new connective tissue, but I was surprised to see how little the lumen of the pulmonary vessels was interfered with. This was marked in all sections, no matter how extensive the fibrous tissue. In the new tissue, areas of round-cell infiltration were seen, and in places, granules of black pigment occurred in the walls of the bronchi, which were most probably, however, secondary to the fibroid changes. In some sections adhesions of the pleura seemed to be the first step in the development of new connective tissue in the lung substance, for from these adhesions broad bands of new fibrous tissue were almost universally seen dipping deep into the lung. Fibrosis is a conservative process. The new fibrous tissue from the pleura and the interlobular septa offer a dense barrier to the advance of the tuberculosis, and the incipient softening is not attended as is usual by the continued deposition of tubercle. The new connective tissue by its contractions encapsulates the tubercular area, compresses and renders inert the cheesy masses, and limits the advance of cavities, reduces them in size, and finally causes them to cicatrize and entirely disappear.

I could find no evidence, as some claim, that the tubercle itself furnished any of this fibrosis. One fact especially impressed me, and that was the hyperæmic condition of the tissue which surrounded the tubercular areas where the new connection was forming. Throughout the fibrous tissue new capillary vessels were seen everywhere. An unobstructed circulation, and an intense hyperæmia were conditions so constantly present where recent fibroid processes were active that they seem to be essential to the cure of phthisis.

In the fibroid conditions which I have just described, fifteen lungs showing the characteristic lesions of healed phthisis were taken, and a half dozen microscopical sections were cut from each lung. These were stained for tubercle bacilli, and in none were any bacilli found. The sections presented all the microscopical appearances of a healed tubercular process, and I believe the lesions could have been caused by nothing except the tubercle bacilli. Some would have us believe that these fibroid nodules found at the apex of the lungs are not the result of a tubercular process, but that other irritants besides tubercle may cause them. The burden of proof, it seems to me, must rest with them. Ziegler, who has investigated tuberculosis from its anatomical side possibly more than any other observer, says, in his work on "Pathological Anatomy," that tuberculous lungs may recover locally, and the indurated patches not only contain no tubercle bacilli, but even present none of the special characteristics of tuberculosis.

The following are the reasons why I consider all these nodules of tubercular origin:

1. A number of cases have been reported where the patient was treated ten, fifteen, and even twenty years before death for extensive and well-marked phthisis, from which, after a number of years, they completely recovered, and finally died by accident, or from some non-tubercular disease. At the autopsy, the only pathological change found in the lungs to mark the seat of the old tuberculosis were these characteristic fibrous nodules. Laennec, Bennett, and Jaccoud all cite a number of cases of this kind.

2. It would hardly seem possible that any but a tubercular process could develop fibrous nodules so uniformly at the apex of the lungs.

3. The few nodules which were proven by my inoculation experiments to contain tubercle bacilli, and so beyond question to be tubercular, differed in no respect in gross appearance or anatomically from the other fibrous masses in which no tubercle bacilli were found.

Inoculation Experiments.—These experiments were conducted upon rabbits with the object of ascertaining whether the circumscribed fibrous nodules containing cheesy or chalky deposits, and found generally at the apex of the lungs, contained tubercle bacilli. The settlement of this point is important, for it is the only means we have of ascertaining whether phthisis is ever absolutely cured. Even a few bacilli remaining in an apparently healed area in the lungs must of necessity always be a source of danger to the individual.

The experiments were conducted in the following manner: The nodule or nodules were laid open by a sterilized knife, the contents removed by sterilized needles, and then dissolved in distilled water in an aseptic vessel. One to two cubic centimetres of this fluid were then injected, under strictly antiseptic precautions, into the right pleural cavity of a healthy rabbit, which was killed in from six to twelve weeks, after being kept under the best hygienic surroundings. A history of the cases from which the nodules were taken and a record of the autopsy on the rabbit were kept. The following is a detailed account of the experiments:

Rabbit No. 1. Inoculated in right pleural cavity with 1 c.c. of fluid obtained by dissolving the cheesy contents of a single nodule, three-eighths of an inch in diameter. The nodule was obtained from the upper portion of the apex of the right lung, which together with the left lung was perfectly normal. The subject from whom the lungs were removed, died suddenly from a rupture of an aneurism of the descending portion of the arch of the aorta. The rabbit was killed at the end of three months, and all its organs were found in a normal condition.

Rabbit No. 2. Inoculated with 1 c.c. of sterilized water in which were dissolved the cheesy contents of two yellowish-white nodules which were surrounded by radiating bands of connective tissue in such a manner as to give the lung about the mass a puckered appearance. The nodules were situated in the centre of the upper lobe of the right lung, and the cheesy centres were one-half and one-fourth of an inch in diameter respectively. The

man from whom the lungs were removed died from a blow on the head, which caused a fracture of the parietal and temporal bones, with laceration of the brain-substance. The rabbit was killed at the end of five weeks, and, with the exception of localized adhesion of the lung to the costal pleura at the point where the needle pierced the chest-wall, all the organs were normal.

Rabbit No. 3. Inoculated in the usual way with the cheesy contents of two nodules, each about half an inch in diameter, and situated at the apex of the right lung. The lungs, with all the other organs, were found in a normal condition. The man died suddenly from "Paris-green poisoning." The rabbit was killed in the fifth week after inoculation, and all its organs presented a normal appearance.

Rabbit No. 4. Inoculated with 3 c.c. of fluid obtained by dissolving in sterilized water the soft, cheesy contents of two nodules, one inch, and one-half inch in diameter, respectively. These nodules were situated at the right apex, an inch and a half from the pleura, and were surrounded by well-organized connective tissue bands. The pulmonary parenchyma for about an inch and a half around these nodules contained twenty gray translucent masses, the size of a pin's head, which looked like miliary tubercles. The smallest bronchi in this area contained pus. With these exceptions, both lungs were perfectly normal. The person from whom they were removed died of chronic Bright's disease. The inoculated rabbit was killed at the end of three months, and in both lungs were found consolidated cheesy masses, the size of a pea, which showed on microscopical examination, the structure of tubercles. The rest of the organs were normal. The contents of the nodules removed from this person, therefore contained tubercle bacilli, and a very recent eruption of miliary tubercles surrounded them, possibly favored by the weak condition of the person two months before death.

Rabbit No. 5. Inoculated with ½ c.c. of fluid obtained from the contents of an old encapsulated nodule three-fourths of an inch in diameter, situated at the apex of the left lung. With this exception, the lungs were perfectly normal. The person died of general abdominal tuberculosis; miliary tubercles studded the omentum, and covered every portion of the small intestines. The nodule in the lung was the only old tubercular process found in the body. Dr. Biggs performed the autopsy. The rabbit, which had become very much emaciated, was killed on the thirtieth day after inoculation, and miliary tubercles were found scattered throughout both lungs. This is a very interesting case, and forcibly impresses the fact of the danger which may lurk in these apparently inert nodules.

Rabbit No. 6. The case from which this rabbit was inoculated was in Bellevue Hospital, under treatment for phthisis. At the autopsy the lungs were found perfectly normal, but there was an aneurism of the arch of the aorta which caused the phthisical symptoms. The contents of two nodules situated just beneath the pleura of the right apex, and about three-fourths of an inch in diameter, were injected into the right pleural cavity of a healthy rabbit. The rabbit was killed at the end of six weeks, and all its organs were normal.

Rabbit No. 7. Inoculated with 1 c.c. of a fluid obtained by dissolving the calcareous and cheesy contents of a single large nodule, an inch and a half in diameter, situated near the apex of the right lung. The nodule was surrounded by layers of fibrous tissue, one-fourth of an inch in diameter. The surface of the lung was puckered, and a broad band of new fibrous tissue ran from the nodule to the depressed surface. The patient died from cirrhosis of the liver. The rabbit was killed at the end of eight weeks, and, with the exception of a localized pleurisy, the lungs and all the organs were normal.

Rabbit No. 8. The patient, who died of heart disease, from whom this rabbit was inoculated, had just beneath the pleura in the upper lobe of the right lung a circumscribed fibrous nodule, three-fourths of an inch in diameter. In the substance of the lobe were a number of smaller nodules limited by concentric bands of fibrous tissue. All the nodules had cheesy centres. The contents of the large nodule with that of three of the smaller were dissolved in sterilized water, and 1 c.c. injected into the pleural cavity of a rabbit. The rabbit was killed five weeks after inoculation, and all its organs were normal.

Rabbit No. 9. Inoculated 1½ c.c. of the fluid obtained by dissolving the scraping from the wall of a contracted cavity, one inch in diameter, situated in the centre of the right upper lobe. The cavity was surrounded by fibrous tissue, one-fourth of an inch thick; it was free from contents, and did not communicate with a bronchus. The patient died of cerebral hemorrhage. In the sixth week the rabbit was killed. The lower lobe of the right lung was bound to the chest-wall; with this exception the lungs and all the other organs were normal.

Rabbit No. 10. The patient from whom this rabbit was inoculated died from chronic diffuse nephritis, with a large dilated heart, and general arterial disease. The upper lobes of the right lung contained ten nodules, varying in size from that of a dime to a small pea, and all surrounded by a very dense capsule of connective tissue. The contents of most were cheesy. The largest nodule was selected and a rabbit inoculated with 1 c.c. of the fluid obtained from dissolving the contents in sterilized water, with the exception of these nodules, and a very thick pleura over the entire right lung, both lungs were perfectly normal. When the rabbit was killed at the end of two months, about half a dozen small tubercular masses were found in both lungs, showing conclusively that the contents of the largest nodule selected contained tubercle bacilli.

Rabbit No. 11. Inoculated in the usual way with the calcareous and cheesy contents of two nodules, three-fourths and three-eighths of an inch in diameter respectively, situated just beneath the pleura at the apex of the right lung. The greater portion of the contents of the nodules was calcareous. The patient died from a gunshot wound of the abdomen. The rabbit was killed on the fortieth day; all the organs were normal.

Rabbit No. 12. Inoculated with 2 c.c. of fluid, obtained by dissolving the contents of two small nodules, about half an inch in diameter, situated in the central portion of the upper lobe. These nodules were surrounded by but little fibrous tissue. The patient from whom they were removed died suddenly of lobar pneumonia. The rabbit was killed on the thirty-fifth day, and with the exception of localized adhesions at the point where the needle entered the chest-cavity, all the organs were in normal condition.

These inoculation experiments show that while in the majority of cases no tubercle bacilli could be demonstrated in the healed pulmonary areas, still the fact that they were found in certain instances where the disease had remained latent for an indefinite period, and the nodules presented the same appearance as in the other cases, emphasized the difficulty of determining just when all dangers from old phthisical processes have ceased. Experiment No. 5 showed that the general abdominal tuberculosis from which the patient died, was due to the escape of the tubercle bacilli from the old and apparently encysted nodule at the apex of the left lung. I can recall a number of cases of miliary tuberculosis, and some of tubercular meningitis, where the only tubercular process which could be found in the body was an encapsulated nodule in the lungs, containing possibly some cheesy material.

These experiments will at least demonstrate the possible dangers which may lurk in these apparently inert masses. Experiments 4 and 10 showed tubercle bacilli in the healed areas in the lungs, and proved that even from these nodules, to all appearances completely enclosed by fibrous tissue, tubercle bacilli had escaped and caused

the eruption of miliary tubercles, which were seen about the masses in both cases. Possibly the physical organism had undergone certain changes in these cases. In Case 4 a localized bronchitis was found; in Case 10 the patient with chronic Bright's was very sick for two months before death. Both of these conditions may have favored the escape of the tubercle bacilli.

May we not here have an explanation of the sudden development of the phthisis in those cases where a localized, and perhaps forgotten, tuberculosis from which apparent recovery has been made, suddenly redevelops.

Conclusions.—I offer the following as reasonable conclusions from the foregoing studies. The microscopical examinations seem to establish that fibrosis is the only method by which tuberculosis of the lungs can be recovered from, and although they accord with well known facts, recognized as long ago as the time of Laennec, by whom the first, and without question best, description of these changes was given, I offer no apology for going over again what may seem at first sight a well-worn subject, for my endeavor has been to study the methods of the formation of this fibrous tissue and the elements from which it is derived. The gross description of the lungs which I have given is the natural grouping of those which have come under my observation.

I have been able to find in medical literature but a few statements as to the percentage of cases of cured phthisis, based on post mortem examinations. In consideration of the large number of cases from which these conclusions are drawn, I believe the time spent in this work has not been in vain.

As to the presence or non-presence of tubercle bacilli in the healed areas, as far as I know this point has never before been investigated. In all the cases examined, and from which I have made inoculation experiments upon rabbits, tubercle bacilli were found in only three instances.

There was one suggestive fact found in my examination, viz., that whenever the nodular mass or masses presenting the anatomical characteristics of healed phthisis were situated in the substance of a lobe, a broad and easily recognized band of new connective tissue passed from the nodule to the pleura through the apparently healthy pulmonary tissue. Sometimes there were more than one of these bands. At the place where the bands reached the surface of the lungs, evidences of a localized pleurisy were found, generally with adhesion of the two surfaces of the pleura. How to explain the presence of these bands is not easy. Its appearance, so often repeated, suggested that some constant and determinable influences were at work, and in the study of the lymphatics and the distribution of pigment in the lungs rests, I believe, an explanation. After consulting all the writings on the lymphatic circulation of the lungs to which I had access, two conclusions presented themselves: First, that the subject is one which had been but imperfectly investigated, and about which little is known, most anatomists dismissing the matter at short hand; and secondly, that the consensus of opinion, including such writers as Sappey, is, that there are two systems of lymphatics in the lungs, namely, those in and beneath the pleura, which empty into the bronchial glands and are entirely distinct from the others in the lung substance itself, which latter follow the vessels and converge at the root of the lungs where they also empty into the bronchial glands.

To ascertain in what direction from the point of injection inert particles, such as carbon, would be carried when introduced into the lung substance the following experiments were made upon rabbits:

Into the lung-substance, as near the centre of a lobe as possible, four healthy rabbits were injected, under antiseptic precautions, with a fifth of a cubic centimetre of sterilized water. The water injected into two of the rabbits held in suspension powdered charcoal; that injected into the other two, carmine. The rabbits were killed at the end of the third, thirtieth, and fortieth days, and microscopical sections were cut at right angles to the surface of the lungs, extending from the pleura to the root of the lungs.

It became evident that the pigment was carried from the centre of a lobe, where a large mass of it was collected, not only outward to the pleura but inward to the root of the lung—most of the pigment passing in the latter direction.

Pigment-granules were seen along the surface of the pleura only over the central mass of injected pigment, in the interlobular connective tissue, running inward from the pleura, and also in pigmented cells found in the smallest bronchi.

While no doubt some of the pigment in these cases was carried toward the surface of the lung by the bronchi and blood-vessels, the continuous lines of pigment-granules seen in some of the interlobular connective tissue would point to the lymphatics as being instrumental in diffusing the pigment toward the surface of the lungs, even to the pleura. The interlobular tissue of the lung of the rabbit inoculated with the carbon granules was beautifully mapped out by the pigment.

A study of a number of microscopical sections made of normal lungs, and of lungs in which an old tuberculosis was present, leads me to believe that the lymphatics situated in the interlobular connective tissue run toward the pleura; certainly those at least seem to do so which are situated in the outer third of the lung. The distribution of the pigment noted in these cases seems to help to explain the formation of the characteristic bands of new connective tissue which I found in the human lungs, extending from the nodules located in the central portion to the overlying pleura. In none of the sections was there noted a band extending in any other direction. Inferences might be drawn thus: The inflammatory products resulting from the destruction of tissue by the tubercular processes which have taken place in the central portion of the lungs are carried in the lymphatics which run in the interlobular septa to the pleura. There a localized pleurisy is set up; this may be the first intimation given by physical examination that tuberculosis has commenced. So also the pleuritic crepitation heard must have a special pathological significance, ante-dating often any other physical sign. In like manner, it is readily seen how the interlobular connective tissue irritated by the inflammatory products in the lymphatics increases, and so are formed the broad bands of new tissue which are noted in these cases.

My examinations also show that it is not the tubercle which undergoes healthy evolution, but the normal connective tissue of the lungs, which surrounds it, and of this connective tissue, it is the interlobular, assisted by that of the pleura which first increases, and is able to resist the advance of the destructive processes. If by any means the vessels in this tissue can be kept open, the capillaries filled with blood, fibrous processes will be established as the result of the irritation, and the active congestion. If there is any virtue in Koch's "tuberculin," high elevation, or certain indirect methods, as the pneumatic cabinet, may it not be due to the localized congestion which they excite? A microscopical examination of the lungs removed from three patients who had been treated for a long time by injections of Koch's "tuberculin," showed a most intense active hyperæmia of all the vessels in and around the old fibroid areas at the apex of the lungs. In these situations an unusual formation of new connective tissue was taking place. The microscopical appearance of these lungs differed in this respect from all others I have ever examined. When once formed, the fibrous growth acts as a bulwark to prevent the irritation and extension of the tubercle bacillus. In this way such tubercular exudation as has occurred will be rendered abortive, and even large ulcerations will be healed and cicatrized by the newly formed connective tissue. In examining the lungs which I removed from a patient who died a few months ago in Bellevue Hospital, I found in the upper lobe of one lung, a cavity the

size of a walnut. This cavity communicated with a bronchus, and had a dense fibrous lining, fully one-eighth of an inch in thickness. It was filled with masses of cheesy tubercular material, which contained tubercle bacilli in large numbers. In the upper lobe of the opposite lung was an eruption of miliary tubercles, covering an area about two inches in diameter. A careful examination showed the walls of the cavity to be intact, and that it had resisted the advance of the tubercular process. In one of the larger bronchi was found a tubercular mass covering an ulcerated surface, showing that the infection must have extended from the old cavity by way of the bronchi to the opposite lung. Here lurks another danger of an incompletely healed tubercular process in the lungs, and not till every avenue of extension is shut off, and the cavity free from tubercular products containing bacilli, can we consider pulmonary tuberculosis as cured. The few encapsulated tubercle bacilli must then be rendered inert. The two healed cavities which I have previously mentioned in my cases were free from any material; their walls were fibrous looking, and contained no vegetations. The contracted cavities, which communicated with no bronchus, contained but little material. Whether this had been removed by expectoration or absorption it is hard to say.

It is a well-known pathological fact that loss of the parenchymatous elements of a tissue or organ is followed by a new growth of connective tissue to take their place. The new growth must be pathological in intensity to be effective when there is much destruction of tissue. May not this rule be applied to the lungs to explain the conservative changes which take place in them? In phthisis the pulmonary parenchyma, being of a higher grade of vitality than the connective tissue, is acted upon and destroyed first by the tubercle bacilli. The surrounding connective tissue is stimulated to increased activity by the irritation which is produced, just as occurs in other places in the body on the application of an irritant. Again, the parenchyma of the lungs being destroyed, the connective tissue must increase to fill the vacancy produced. Laennec and Bennett both describe autopsies made on private patients who had been under observation for a number of years, in whom a careful study of the physical signs indicated that cavities had formed and gradually cicatrized. At the post-mortem, the place of these cavities was entirely taken up by new connective tissue formation, and no collapse of the lungs had occurred to aid their obliteration.

Before closing this article, I would acknowledge my indebtedness to Dr. Henry S. Stearns for the photographs which he has kindly taken for me, both of the gross specimens, and of the microscopical sections.

As a summary, and a partial answer to the question with which this paper opened, I would suggest the following:

1. Out of 763 persons dying of a non-tubercular disease, 71, or over nine per cent., at some time in their life, had phthisis, from which they had recovered.

2. The new fibrous tissue by which the advance of the disease was apparently checked, and the cure effected, developed principally by round-cell infiltration of the interlobular connective tissue, which in some instances had increased to an enormous extent. Some of the new fibrous tissue was formed later by round-cell infiltration in the alveolar walls and around the blood-vessels and bronchi. Pleuritic fibrosis appears to be secondary to tubercular processes in the lung-substance. The interlobular connective tissue is the primary and principal source of the fibrosis.

3. Tubercle bacilli were present in the healed areas in three out of twelve of the lungs examined. These healed areas did not differ in their gross or microscopical appearances from those in which they were not found.

4. Thirty-six per cent. of all cases where the lungs were free from disease showed localized or general adhesions of the two surfaces of the pleura.

ON REFLEX IRRITATIONS AND NEUROSES CAUSED BY STRICTURE OF THE URETHRA IN THE FEMALE.[1]

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GENTLEMEN: Stricture of the urethra in the female has been so rarely considered, or even referred to in works on the general diseases of females, or on the special diseases of the genito-urinary organs of the female, or even in works devoted solely to the subject of urethral stricture, that it might hence be inferred to be a difficulty so rare or so unimportant as to be of little practical consequence.

Symptoms in the female which, in the male, would be at once accepted as indicating the probable presence of urethral stricture have been often recognized and referred to under the title of "irritable bladder in the female," and attributed to causes quite independent of their possible relations to the urethra. It has even been recognized that over-distention of the urethra in such cases is one of the most efficacious modes of treatment, and yet the advantage which might result from the examination of the urethral canal for conditions which would justify such procedure, would seem to have been completely lost sight of.

The fact that stricture of the male urethra is accepted as usually due to either gonorrhœal inflammation, or to some traumatic cause, while the "irritable bladder" in the female, above referred to, occurs quite independently of any previously recognized inflammation or other injury of the urethra, tends, doubtless, to prevent the consideration of stricture as a possible cause of the trouble.

In connection with the above generally received opinion, I wish to say that I have long been convinced that the foundation, at least, of the very largest proportion of strictures in the male, consists of cicatricial deposits due to lithiasis at periods often long antecedent to the gonorrhœas to which they are attributed. I have many times detected strictures in early boyhood sufficiently developed to cause disturbances more or less troublesome in the urinary function.

In regard to the origin of organic urethral strictures, in either male or female, there is no one point more thoroughly settled in my own mind than that, whenever occurring or wherever situated, it is due simply and always to the exudation and organization of plastic lymph in the subepithelial urethral tissues, in the strictest accordance with well-known physiological and pathological laws, and is thus wholly free from any specific element or peculiarity whatever. Irritation of the urethral mucous membrane sufficient to cause the localized exudation of plastic lymph into the subepithelial structures, may, and very often does, take place through an inflammatory process of so low a grade as to be free from any pain or sensation to the subject of it. In this way, through the passage of urine in subjects of gouty or rheumatic diatheses, strictures are formed practically identical with those resulting from gonorrhœal or traumatic cause—differing only in their more chronic course, and capable of producing all the symptoms, reflex as well as local, which have been recognized as the effect of strictures of alleged gonorrhœal origin.

It is now a very generally accepted fact that some of the most distressing and obstinate of the reflex difficulties due to stricture of the male urethra are caused by comparatively slight contractions of this canal. M. Civiale, of Paris, was the first (in 1850) to call attention to this subject.[2] Thus, at page 45 of his work, in speak-

[1] Read before the American Association of Andrology and Syphilology, Washington, September 22d, in the absence of the author, by Dr. W. K. Otis

[2] Traité pratique des Maladies Génito-urinaires, par M Civiale, p. 45, etc. Paris, 1850.

ing of the urethra, he says: "Independent of its local sensitiveness, there is another kind which may be termed the sympathetic, which, when aggravated, may awaken sympathetic response in every organ and function of the body." He then cites full clinical proof of his position.

Through a series of observations quite independent of any knowledge at that time of Civiale's views, I was able to confirm and support them in a paper entitled, "Reflex Irritations throughout the Genito-urinary Tract, Resulting from Contractions of the Urethra, Congenital or Acquired," read before the New York Academy of Medicine in February, 1874. This paper, which was supported by a series of clinical cases occurring under my own observation, gave rise to considerable discussion at the time and subsequently, and it was not until two years after that M. Civiale's priority in the field was discovered by me, and publicly acknowledged. During the many years since that time, so much well-authenticated evidence has been adduced in support of the views then advanced, that their acceptance by the profession at large may perhaps now be claimed to be general.

In regard to urinary troubles in the female, simulating those which have been found often due in males to urethral stricture, the similarity does not appear hitherto to have suggested a similar origin.

The following cases are presented to show: First, that stricture of the urethra in women may occur in extent sufficient to cause reflex troubles as varied and severe as those occasionally caused by stricture of the urethra in man, and this quite independent of any recognized specific or traumatic cause. Second, that in cases of females suffering from urinary troubles which do not respond to the ordinary measures in use for the relief of such troubles, attention may be directed to the desirability of early exploration of the urethra by means of the urethrometer, or the bulbous sound, in order promptly to eliminate at least one important element of failure in the diagnosis and treatment of such cases.

CASE I.—Mrs. S——, aged seventy, in excellent general health, was referred to me in October, 1888, for treatment of frequent and painful urination, to which she had been subject from time to time for the previous two or three years, during which she passed through the hands of several well-known medical men without obtaining relief. She had been examined repeatedly for stone in the bladder with negative result, and her difficulty was finally looked upon and treated as the result of irritating urine consequent upon a gouty diathesis. Examination of the urine showed it to be normal in quantity and color, specific gravity neutral—no albumin—a few pus- and blood-corpuscles and epithelia from the bladder, and a few crystals of triple phosphate. Urination was said to occur every half hour or oftener, with pain and straining at the close of the act. Occasionally little clots of blood had been observed in the urine also at times slightly staining the linen. A careful examination of the bladder for stone failed to detect that or any calculous material. Examination with the urethrometer showed the urethra to be 34 mm. circumference at the vesical orifice, and for an inch and a half anterior—at which point it was contracted to 24 mm. by a narrow band scarcely a quarter-inch in breadth; the canal then showing a gradual dilatation to 32 mm. at external urethral orifice. The dilating urethrotome was introduced, under ether, expanded to 32 mm., and division of the stricture made at this point. During an irrigation of the bladder subsequent to this, several minute scales of phosphatic material were found, supposed to have been lodged in the urethra somewhere behind the stricture, and adding to, if not the sole cause of, the vesical irritability. The dysuria ceased immediately subsequent to the operation, and the patient was quite free from further urinary trouble, and so continued for a little more than a year, when practically the same symptoms recurred. Examination revealed a recontraction of the stricture to about its former dimensions. A redivision of the stricture to 34 mm. was made, producing equally prompt relief as in the former instance, although no calculous matter was discovered, thus proving, in a measure, the reflex influence of the stricture to have been the cause of the dysuria in both instances.

CASE II.—Mrs. W. N——, a lady from the country, aged about twenty, of very delicate features and fair complexion, married about six months, not pregnant, came under my care in November, 1889. She had a history of occasional attacks of frequent and painful urination during the previous twelve months, apparently unrelieved by medication. The symptoms were so like those of vesical calculus that her father—from whose bladder I had removed a hard stone some eight years previous—insisted upon an examination of the bladder for that difficulty. This was finally made by the family physician, who reported the probable presence of stone, as he was under the impression he had touched it, but could not be quite certain. The case was then brought to me for litholapaxy. The symptoms—frequent micturition with pain at the close of the act—which, in the beginning, came on once in two or three weeks, and lasted a day or two, gradually increasing in frequency, had now been present almost constantly for several weeks, not especially affected by motion or position; the greatest relief having been obtained by use of hot water applications. Urine of high specific gravity, strongly acid, and containing a few crystals of uric acid and a few pus- and blood cells. Examination of the bladder in my office failed to find any trace of stone. A second and more exhaustive exploration at hotel, under ether, was made with similar result. Examination of the urethra with the urethrometer was then made, with the result of demonstrating a probable normal calibre of 32 mm., and two points of stricture of 24 mm. circumference. One just within the external meatus, and the second about an inch farther down. Divulsion was then decided upon, and made under ether very carefully—first using the urethrometer made strong for such purpose, next Sampson's urethral speculum, and lastly expanding the canal with Stein's urethral dilator, very slowly and with difficulty, up to 70 mm., the entire procedure occupying fully half an hour. The urethra and vesical neck explored with the finger, but without discovering anything abnormal. The intervals of urination, which before the operation were about half an hour, subsequently were increased to three hours. Considerable pain followed the divulsion, relieved to considerable extent by hot water applications and iodoform suppositories, opiates not being well borne. The pain on urination, severe at first, felt only during the act and not after, grew gradually less, until in about a week it disappeared entirely, and the intervals of urination had increased to about four hours, when the patient returned to her home in the country, apparently well. A letter received from her after an interval of several months, contained the statement that, up to the time of her writing, she had not experienced the slightest return of her urinary trouble.

CASE III.—Mrs. W——, aged fifty-five, height about five feet three inches, weight one hundred and twenty pounds, of highly active, nervous temperament, gouty diathesis, but in fair general health. Occasional attacks of digestive and other troubles, credited to the inherited gouty vice, and for which the various anti-gouty remedies had been employed. On several occasions a course of the waters of Hombourg or Marienbad had been ordered, and taken with apparent benefit. Natural and artificial mineral waters had been taken to considerable extent at home, the turbid condition of the urine usually suggesting their use, and yielding more or less promptly to their effect. Nervous dyspepsia and other evidences of the gouty diathesis called for consideration and treatment, from time to time, up to the spring of 1888, when a voyage to Europe was made for the purpose of revisiting one of the German Spas. During some preliminary visiting in London, and while in fair general condition, she

began to be troubled with frequency of urination. The urine at first apparently clear and its passage painless, but becoming very soon cloudy, with increasing urgency and some sense of irritation, within a few hours showing a marked deposit of mucus with slight traces of blood. The services of one of the most eminent medical men of London, after a few days' trial, failed to afford any substantial relief. Suspecting the presence of vesical or urethral calculus, a skilled surgeon was called, and on hearing the history of the case, expressed himself confidently in regard to the probable presence of stone as a cause of the difficulty. A careful exploration, however, failed to detect, in the bladder or urethra, any calculus or other obstructive material. A few days of extreme suffering followed this procedure, when the acuteness of the urinary symptoms passed away; but notwithstanding a varied treatment under the best attainable medical care in London, the urinary frequency continued, with more or less pain, and after several weeks of further trial without marked amendment, she returned in a quite disheartened condition to her home in New York.

As soon as possible after her arrival, Mrs. W—— was again the subject of careful consideration by her family physicians. This finally resulted in the same conclusion, as to the nature and cause of her troubles, as that taken abroad, viz., that they were due solely to the presence of the gouty diathesis. Treatment was then pursued with this prominently in view. Moving about apparently causing but little aggravation of her urinary frequency or pain, the lady, after a time, ignoring her urinary ills as far as possible, resumed attention to her usual affairs, which were manifold.

In the early part of November, 1889, I was favored by Mrs. W——'s physician with an account of her difficulty, and soon after was invited by him to take charge of the case. During my first interview with the patient I was struck with the similarity of the account which she gave of her pains to those so often associated with reflex irritations of the urethra in the male. The chief complaint, however, was of a "grinding pain," as if the walls of the bladder, at its neck, were forcibly rubbed together with grains of sand intervening. This came on at the close of urination several weeks previously, slight at first, but increasing, and soon associated with more or less constant neuralgic twinges down the thighs, and even to the soles of the feet, especially aggravated by fatigue or mental anxiety. Felt also over the region of the bladder, and at times, when most severe, extending upward through the chest and along the sides of the neck, and sometimes terminating in a distinctly recognized sensation—not a pain, but rather as of a slightly metallic taste under the tongue. These pains and discomforts were described as distinctly following, and apparently the result of, the act of urination, and never felt except in that connection. The urine previously examined was normal in quantity and specific gravity, light in color, cloudy, odor strongly ammoniacal; microscopic examination showing pus, mucus, and vesical epithelium, but no casts. The history, conditions, and symptoms pointed strongly to a foreign body in the urethra or bladder, as the cause of the dysuria, and probably of the associated reflex neuralgia. With Professor T. G. Thomas as consultant, Dr. Henry F. Walker and my son, Dr. W. K. Otis, assisting, the patient under chloroform anæsthesia, I made first a careful exploration of the bladder and the urethra for stone or other foreign material, but with negative result; nor was any abnormal condition of the urethral or bladder walls recognized. An electro-cystoscopic examination of the bladder was then made, but besides confirming previous conclusions as to complete absence of stone or neoplastic growth, only such changes in the mucous membrane of the bladder were found as are present and characteristic of mild chronic vesical catarrh. The previous introduction of Thompson's searcher, also of the cystoscopic tube, had given no indication of the urethral stricture which the significant reflex symptoms suggested. Examination with the urethrometer, however, introduced closed and turned up in the bladder to 45 mm., showed on withdrawal a urethral calibre of 40 mm. at the vesical junction and for half an inch, and then a gradual narrowing in the next half-inch of 12 mm. to 28 mm., 28 mm. for a quarter of an inch; then a gradual increase to 34 mm. at the external orifice; thus showing a urethral stricture present quite sufficient to produce both the local and reflex symptoms in practically identical and well-authenticated cases of stricture of the male urethra. With the approval of my associates I proceeded at once to restore the urethra to its estimated normal dimensions, first distending it slowly by means of the urethrometer, until Sampson's urethral speculum could be readily introduced, carrying it with this up to 50 mm.; then introducing Stein's urethral dilator and distending it up to 70 mm., when upon withdrawal my index-finger was passed readily through the urethra into the bladder. A careful exploration of the bladder was then made, especially of the parts about the vesical neck, but without detecting structural change or foreign body of any sort; very slight hemorrhage followed. The first effect of the operation was to increase the interval between the acts of urination, from half an hour at longest, to about two hours. The feeling of sand-like grinding on the vesical neck, so much complained of before the operation, did not recur, neither was there any return of the curious reflex symptoms previously described.

In short, the whole train of ills associated with the urinary act had quite disappeared; the only trouble, soreness and smarting attendant upon the passage of the urine over the distressed mucous membrane, quite severe at first, grew gradually less, and within a few days passed off entirely. For the correction of the strongly ammoniacal odor of the urine, which persisted, as well as for the catarrhal condition of the bladder, a course of Ultzmann's antiseptic and astringent injections was instituted.[1]

In carrying out this procedure the normal capacity of the bladder was found to have decreased so, that at first only about four ounces of fluid could be introduced without producing strong desire to urinate. Gradually, however, with gentle distention by means of the Alpha syringe, the capacity of the bladder was increased to sixteen ounces within the following two months. The catarrhal condition improved, and the intervals of urination increased to between three and four hours. An habitual daily irrigation of the bladder with chloride of sodium, 3 j. to O j. of water, was then substituted for all other treatment. Notwithstanding the occurrence of decidedly gouty manifestations from time to time, for which she was under the care of her regular medical attendant, she continued to improve, until after a couple of months, during an exacerbation of dyspeptic trouble, she had a recurrence of the urinary frequency, some of the acts of urination followed by the sand-like irritation formerly the source of so much complaint. Another examination, under chloroform, revealed the fact of a recontraction about a fourth of an inch in breadth, and down to 34 mm., just within the external urethral orifice; the remaining portion of the urethra permitting the easy passage of the urethrometer turned up to its full extent, viz., 45 mm. This contracted portion was distended to 45 mm. and then divided with a blunt-pointed bistoury (to the depth of about a fourth of an inch), until not the least obstruction could be detected. The next passage of urine, which did not occur until nearly five hours after the operation, was somewhat painful from contact of the urine with the wound, but was perfectly free from the distressing symptoms previously referred to. Mrs. W—— was seen by me last on August 10, 1891, in Switzerland, returning from a course of treatment for her gouty diathesis at one of the German Spas; she was in excellent con-

[1] See Ultzmann on Pyuria, pp. 68 et seq. New York: Appleton & Co. Also Otis on the Male Urethra, p. 73. Detroit: George S. Davis. 1888.

dition and spirits, being then, as she stated, perfectly free from any urinary difficulty.

In conclusion, I would like still farther to call attention to the probable frequency of cases of urinary trouble in the female, local and reflex, due to unrecognized urethral contractions. A moiety of such cases have found relief through divulsion of the canal, or by an equally empirical gradual dilatation by the use of sounds. To what extent the latter mode of treatment, especially, has obtained, it would be very difficult to estimate, as I have yet to see any published account of it; but which may have had a much wider range than the treatment by divulsion or over-distention of the urethra, as the following incident will suggest:

One morning, five or six years ago, being in the office of my venerable and distinguished colleague, Dr. John T. Metcalfe, Emeritus Professor of Theory and Practice in the College of Physicians and Surgeons of New York, he astonished me by the exhibition of a small pocket case of short steel urethral sounds, which he said he had used for years in his practice, and which he had found to be a specific in cases of idiopathic irritability of the female bladder. The late Dr. Lewis Fisher, of New York, who was at one time largely engaged in the treatment of the nervous diseases of females, had, as I subsequently learned from him, a similar case to which he attributed similar virtues.

A few words now in regard to the diagnosis and treatment of stricture of the urethra in the female, and I have done. Unfortunately, there has not yet been discovered any guide to the probable normal calibre of the urethra in woman; nor does there seem to have been any considerable number of measurements of that canal reported, upon which reliable estimates might be based. After the discussions which have occupied the attention of genito urinary surgeons more or less for the last fifteen years, concerning the normal dimensions of the male urethra, it will now scarcely be a question of its probable individuality in woman. My own observations, up to this time extending to not more than twenty-five or thirty cases—none of which have been noted with absolute exactness—have still proven to me that there is a wide range in the normal calibre of the urethra in woman, covering at least 15 mm., *i.e.*, from at least 30 to 45 mm. circumference, and without regard to the physical proportions of the individual; also that the urethra, aside from an occasional contraction of two or three millimetres at the external meatus, is of nearly uniform size. In making examinations it will be necessary to use the urethrometer or the bulbous sound. The latter will doubtless answer to determine the absence of strictures, and to localize them in the majority of cases when present; but for a complete diagnosis, in many cases, the urethrometer will be essential. This instrument should be introduced closed, well into the bladder, and fully expanded; then, on withdrawal, turned down until it will pass the internal meatus, noting the calibre at this point, and subsequently the obstructions, if any are met; then locality and degree until the bulb emerges from the meatus externus; exactly in the same way that it is recommended to use the urethrometer in examinations of the male urethra.

Divulsion of stricture in the female may be claimed as a very different and greatly less serious operation than the same procedure for stricture of the male urethra—to which, as a rule, I am decidedly opposed. In perhaps a dozen instances I have carried the distention of the female urethra up to seventy millimetres circumference, thus to the point of admitting my index-finger, and never, save in a single instance, finding any constitutional reaction resulting, nor any inconvenient loss of control of the urine. This exception was in a lady of seventy, where the urethra was distended for extraction of a phosphatic calculus, and where the walls of the bladder were found so coated with calculous material that great and prolonged distention by the finger became necessary, working with the forceps, lithotrite, and scoop before its complete removal was accomplished. The vesical sphincter was quite disabled for several days, and for several months after a little jet of urine would accompany the act of sneezing, coughing, or suddenly assuming the sitting posture; but finally the normal control was restored. The tendency to recontraction in strictures of the female, when treated by over-distention or divulsion, has been most marked, in several instances calling for a repetition of the procedure. It seems to me probable that in a very large proportion of the troubles due to stricture of the urethra in the female, gradual dilatation may be resorted to with benefit, and thus come readily within the scope of the general practitioner, to whose notice they usually come in the first instance. The symptoms once relieved, subsequent periodical dilatation may be readily practised by the patient through the self-introduction of the urethrometer into the bladder, the instrument then expanded to the required degree and gently withdrawn. I now recall the instance of a lady once under my care, whose strictures were divulsed with relief to a troublesome frequency of urination, who uses the urethrometer in the way above described without difficulty or discomfort, every three or four weeks, with immediate relief to the urinary frequency, which was thus apparently shown to have been dependent upon slight recontraction of the stricture.

5 West Fiftieth Street.

THE WOOD CORSET;

With Improvements, for the Treatment of Lateral Curvature and Pott's Disease of the Spine.

By A. M. PHELPS, M.D.,

New York.

The question of a suitable spinal support in lateral curvature of the spine and convalescent cases of Pott's disease, has been before the profession from the earliest time, and not until Dr. Sayre devised the plaster-of-Paris corset did we have a brace that accomplished nearly all that is desired in a support.

The plaster-of Paris corset I believe to be one of the most efficient of supports. It certainly has the advantage of cheapness, and it is well adapted for use in clinics and dispensary practice. It has, however, the disadvantage of weight. Steel braces have been made. Many of them, when suitably applied, furnish very good results. Dr. Vance constructed, to take the place of the plaster-of-Paris corset, a paper corset.

If the profession could have at their disposal a corset which combines strength, durability, porosity, and lightness, it would meet a long-felt want. I had heard something of the wood corset, but knew nothing of its construction. Therefore, three years ago I visited Europe for the express purpose of learning the details of its construction. On my return, I presented the corset at a meeting of the Surgical Section of the New York Academy of Medicine.

I visited Dr. Waltuck, of Odessa, Russia, and from him personally I learned the details, after several days of hard work. I found that Professor Lorenze, of Vienna, had been using the corset for some time, and was much pleased with it. At that time, however, many of the corsets proved to be inefficient on account of errors in their construction. We have used the corset constantly since that time, and with the modifications which we have made, it is the most efficient, comfortable, and suitable spinal brace that I know of.

It has been with the greatest difficulty that we have succeeded in getting the proper materials for constructing the corset, and even now it is cheaper and better to import the wood from Vienna. The spruce timber which grows there makes a better shaving than any timber that we have attempted to use which grows in America. It is tougher, and works better with the glue.

The materials necessary for making the wood corset are: One dozen plaster-of-Paris bandages; one tight-

fitting shirt, fifty pounds plaster-of-Paris, two pounds oakum, two yards of raw unbleached linen, a blue pencil, one pound of Cologne glue, a little glycerine, a knife for splitting wood, a glue-pot, a hammer, a large clothes brush, some towels, two sandbags, a quantity of wood shavings, some shellac, an eyelet punch, a number of eyelets, and hook lacings, and two yards of knit shirting.

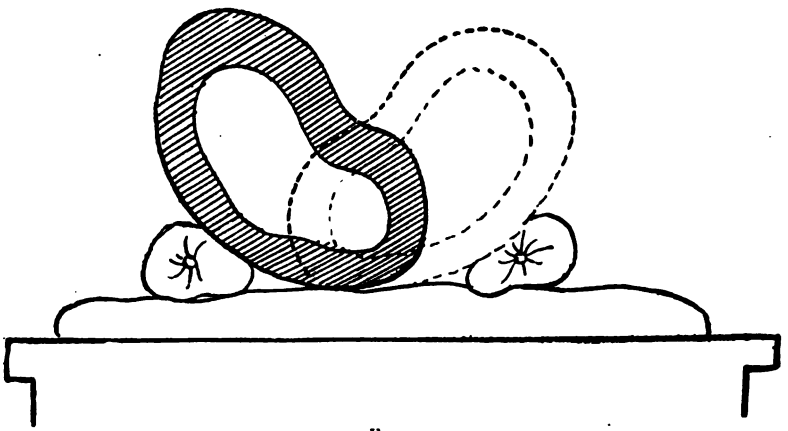

Fig. 1.

All of these articles are kept in stock by Messrs. John Reynders & Co., New York, who have kindly imported for me such materials as could not be procured in New York.

The Details of the Work.—Suspend the patient after the tight-fitting shirt has been applied. Indicate, with the blue pencil mark around the body on the shirt, the length of the corset desired. Apply the plaster-of Paris bandages as in making an ordinary plaster-of-Paris corset. When the plaster is set, remove it from the body by cutting it down in front. Strip out the shirt from the corset, when the blue pencil marks will be seen on the inside of the plaster corset. A few turns of the plaster bandage around the plaster corset is necessary. Put in a large dish a quantity of oakum picked up finely. Mix with this a quantity of plaster-of-Paris. After having greased the inside of the corset with vaseline, stir water into the plaster-of-Paris and oakum until it is of the consistence of thick mud. Apply this over the inside of the corset to the thickness of three inches. After it is set, remove the corset, and a perfect cast of the body will be the result. The blue line will be transferred from the plaster mould to the cast. The oakum is put in the plaster to facilitate the modelling, and also to make the cast tough, because considerable hammering has to be done upon it. The cast should dry two or three days in a temperature not exceeding one hundred and fifty degrees. Any imperfection in the cast should be remedied with plaster-of-Paris, building out such points over the breast and hips and deformed portions as may seem necessary to make an artistic corset. Cover the cast with raw linen which has been wet for the purpose. Some difficulty will be experienced unless the workman has seen the work done.

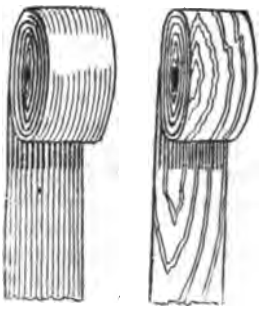

Fig. 2. Fig. 3.

The cast is placed on a table with the sandbags, as seen in Fig. 1.

The wood from which the corset is made is taken from the edge of a plank the grain of which is as seen in Fig. 2. Fig. 3 shows imperfect grain. The grain running as in Fig. 2 makes a tough strip that will bend as seen in Fig. 4. When the grain runs as in Figs. 6 and 7 and the wood is bent, it will present the appearance of Fig. 5, which has an element of weakness.

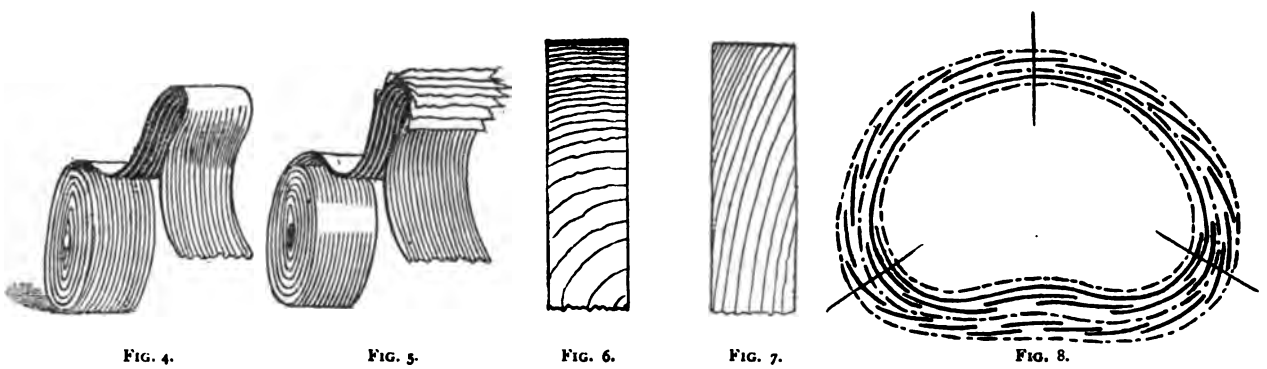

Fig. 4. Fig. 5. Fig. 6. Fig. 7. Fig. 8.

The layers of wood and linen are explained in Fig. 8, the dotted lines being linen, the black lines wood, and it will be seen that there are three layers of linen and two of wood in the front of the corset, with three layers of linen and three layers of wood in the back and side.

Over the hips extra pieces are put in, making it even thicker, which will be explained later.

The cast is now laid with the back up. Draw three longitudinal lines, one in the centre in front, and one on each side, dividing the cast into three parts. Cut several strips of wood in lengths long enough to overlap the lateral line two inches.

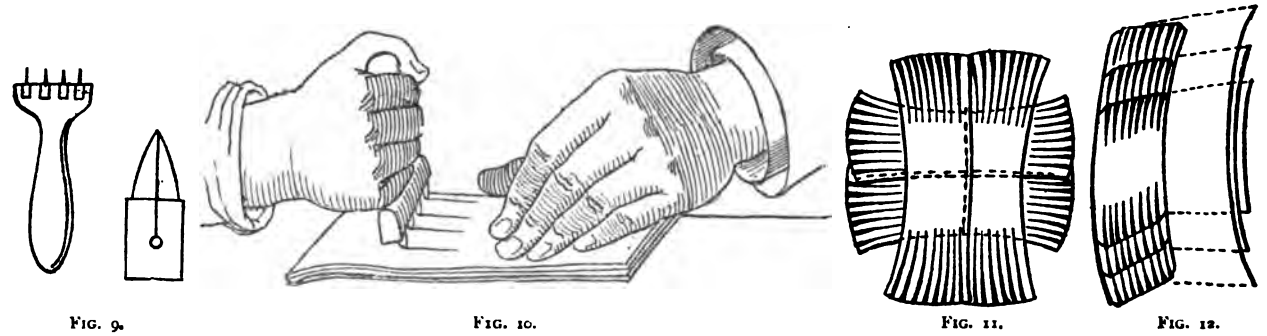

Fig. 9. Fig. 10. Fig. 11. Fig. 12.

With the tool, Fig. 9, split the ends of the wood as seen in Figs. 10 and 11. The object of this is to allow the ends of the wood to spread or to overlap, so as to fit all inequalities, as seen in Figs. 11, 12, 13, 14, and 15. Prepare the glue by soaking it in water over night, then melt it. To a pot (holding one quart) of glue, add one tablespoonful of glycerine. Dip the glue-brush into the glue, wipping it as dry as possible on the edge of the pot so as to use the least possible quantity.

A strip of wood is covered with glue, and the brush drawn along the part of the cast where the wood is to be laid, beginning at the top of the cast with a transverse layer; strip after strip is applied, and overlapping the strip above one-eighth of an inch. Cover this layer of wood with the linen and glue, and hammer the whole together. Turn the cast on the side, and working from the centre in front, put the strips on horizontally, overlapping the strips already laid on, two inches. Cover this with linen, lapping on the back two inches. Finish the opposite side in the same manner. See Fig. 16.

Beginning in the back, put on the strips longitudinally, overlapping four inches in the centre of the cast from the top and bottom. See Figs. 17, 18, and 19.

Hammer the wood well together with an ordinary shoemaker's hammer. Now stay the corset with wood, as seen in Figs. 17 and 18, over the hips, and also strengthen the corset by putting on another layer of wood diagonally from the shoulder to the opposite hip, meeting at a point in the centre of the waist. Cover the entire work with linen, putting the least amount of glue on the wood before the linen is applied. After twenty four hours the corset can be removed from the cast, fitted to the patient, and sent to the trimmer, who will treat it in the following manner. Corsets made according to the method followed at the time I observed the process were not as perfect as they should be.

1. The slightest excess of glue moistened by the perspiration of the body coming in contact with the shirt or the skin, was exceedingly disagreeable. 2. The perforations in this corset weakened it, and allowed the glue to exude during perspiration.

To obviate all this, I had the corset perforated, as seen

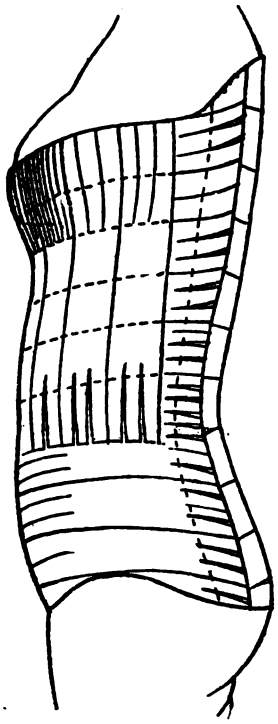

FIG. 13.

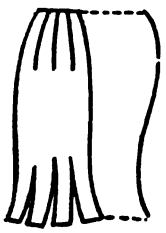

FIG. 14.

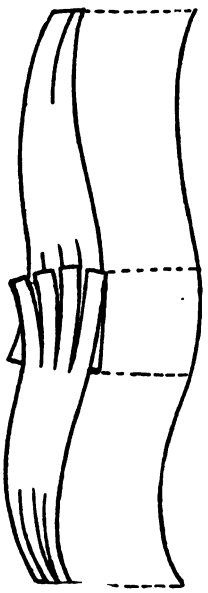

FIG. 15.

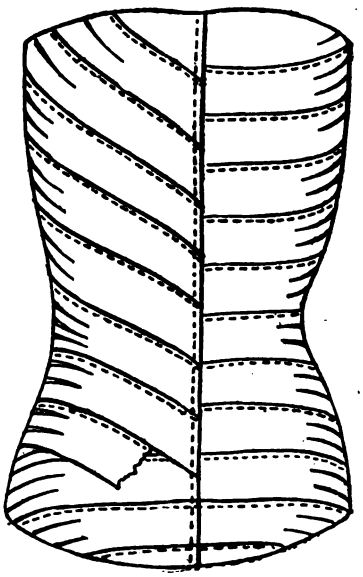

FIG. 16.

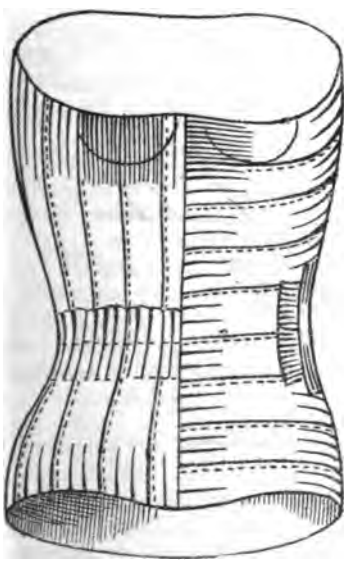

FIG. 17.

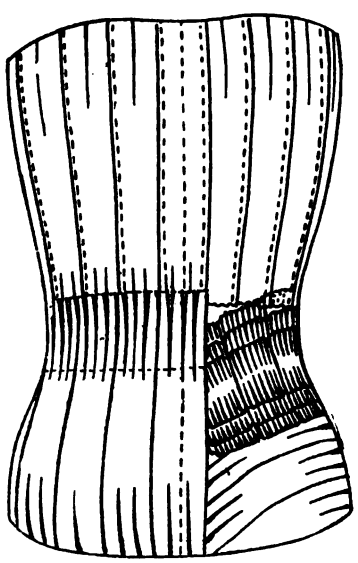

FIG. 18.

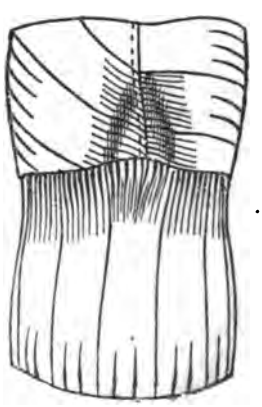

FIG. 19.

in Fig. 20, in which perforations eyelets were punched. A special machine facilitates the perforating and the punching of the eyelets. The lacings are stitched on as in Fig. 20. Trim the top and bottom with kid. The entire corset is shellacked inside and outside with two or three coats of shellac, which renders it impervious to moisture, the eyelets ventilating it perfectly.

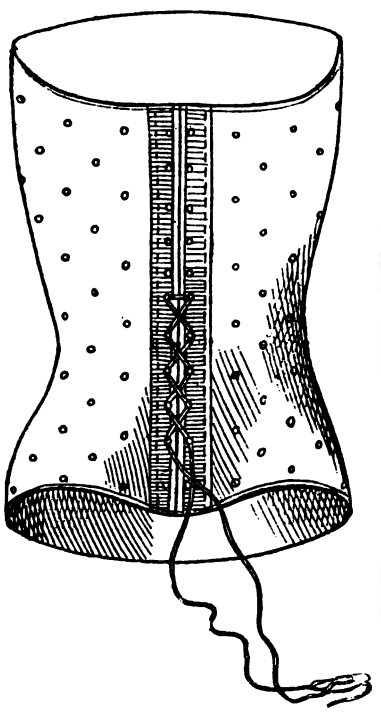

FIG. 20.

A corset made as I have described, it will be observed, differs from that of Dr. Waltuck in the layers applied as seen in Fig. 8. It is no better, but somewhat easier to make.

The improvements which I have made in the corset consist in shellacking it on the inside and outside, and putting in the eyelet-holes, eyelets, which add to the strength of the corset and ventilate it perfectly.

An ordinary corset, for an adult, weighs from one to one and a half pound. They are very durable, very comfortable to wear, and thus far I believe that they are the best spinal braces yet devised.

I have made from the paper used in the manufacture of boats, a corset which answers the purpose equally as well as the wood corset. It is much lighter, and seems to be as durable, and I am not sure but it will take the place of the wood corset. Time will determine. The process of making the paper corset is similar to that of making the wood corset, so far as making the cast is concerned, after which the cast is sent to the paper-boat manufacturer, who applies the paper according to the process employed in making boats.

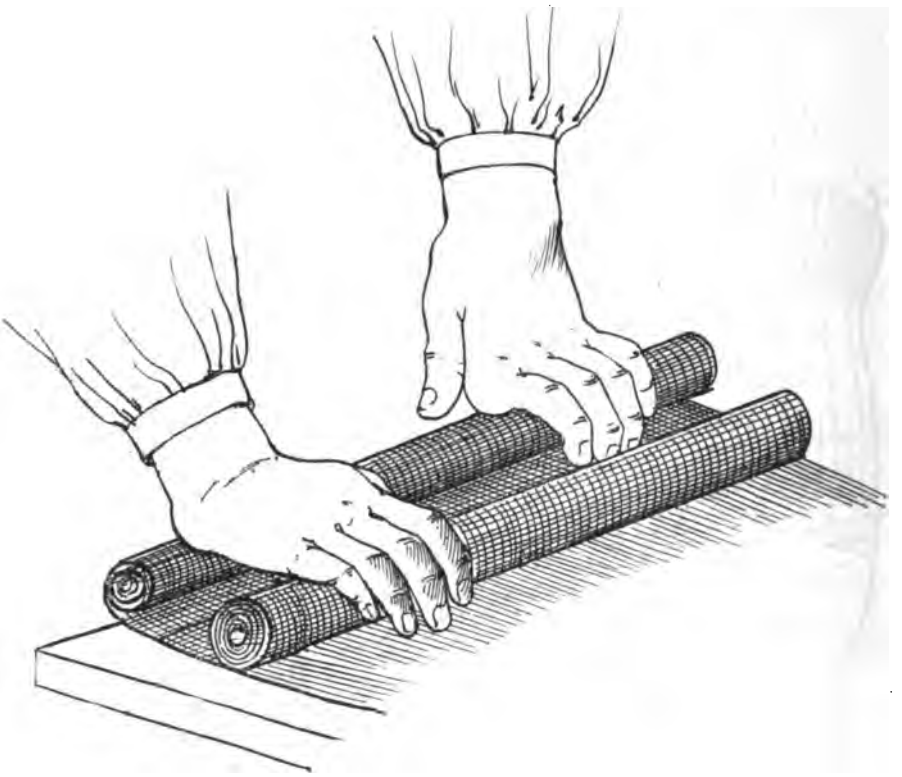

FIG. 22.

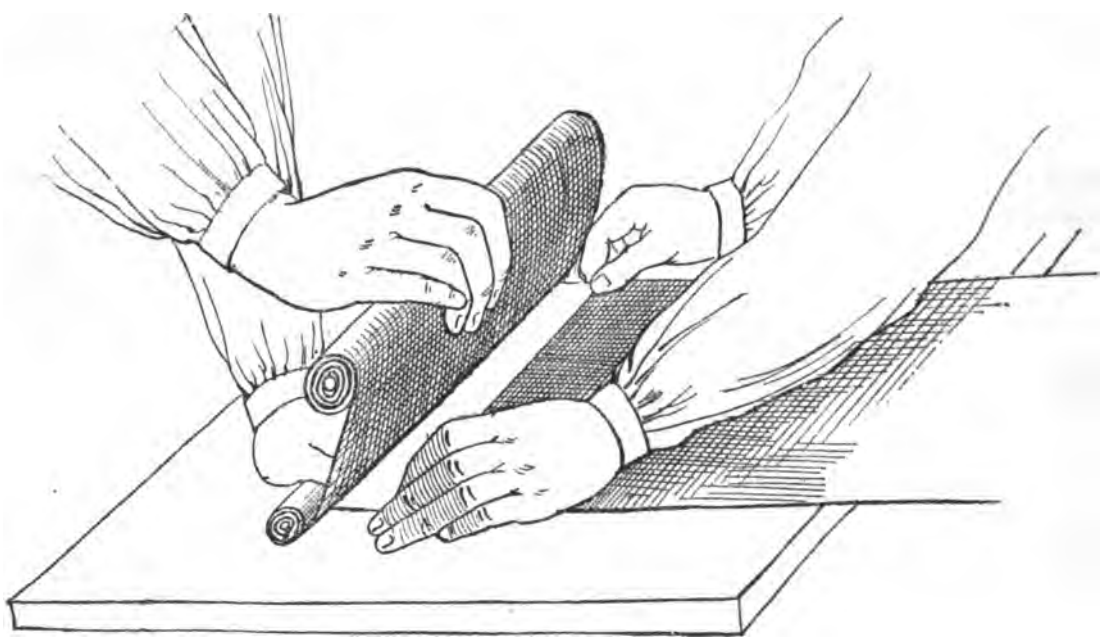

FIG. 21.

Another use to which the wood shavings are applied is in working them with plaster-of Paris in the treatment of fractures or osteotomies or excision of joints. Being thin

and narrow, they admirably adapt themselves to the parts, and the plaster-of-Paris holding them in place, they fit more accurately than any mechanic could shape a solid piece of wood to fit.

Again roll two layers of crinoline, between which wood strips have been placed, as shown in Figs. 21 and 22.

Roll up four yards of this, as seen in Fig. 22. With a saw, cut this into rolls four inches in length. Immerse one of these bandages in water, and it will be found an admirable dressing when applied to a limb in cases of joint disease, or where a slight support is required to hold a limb in a proper position. The starch of the bandage soon hardens, so that we really have a starch bandage reinforced by wood shaving.

There are many cases in surgery where this bandage can be used to great advantage, and applied over surgical dressings it takes the place of plaster-of-Paris. It is light and just as strong as plaster-of-Paris, and it has the advantage over the starch bandage of keeping its position after it is applied, even before it is dry.

The corset is somewhat difficult to make. It requires a good worker in wood and glue, and a plant for doing the work.

It would hardly pay a general practitioner, who possibly would not use more than four or five corsets during the year, to go to the trouble and expense of making his own corset. If those gentlemen who desire to use the corset will make a plaster-of-Paris corset as described in the beginning of this paper, and send it to the workshop of the Post-Graduate School and Hospital, the men there will make the corset, and Messrs. John Reynders & Co. will satisfactorily trim it.

I will say, by way of parenthesis, that the corsets, when completed, can be covered with silk or with stockinet, or they can be left in the linen finish. They are not so warm for summer use in the linen finish.

Clinical Department.

MALIGNANT NOMA.

By A. H. HUBBARD, M.D.,

PUEBLA, MEXICO.

I find the following in my note-book for November' 1885:

I was called at midnight to see a boy, eight years of age, said to be crying bitterly from pain in the right cheek. On my arrival at the place I found the boy with his face wrapped in woollen cloths, on removal of which a mass of putrid flesh came away, leaving a hole in the cheek two inches in diameter.

There were no signs of inflammation; his mother said he had complained of pain in his cheek since the afternoon before, but as there was no inflammation she paid no attention to it. The parents are both of pure Indian blood, and manifest perfect health; they say their child never suffered a day's sickness in its life.

I dressed his face, gave an anodyne, and returned to my office. At daylight I was called in haste, the messenger saying the boy was crying bitterly from pain in the other cheek. On my arrival I discovered a dark spot in the centre of the cheek, the size of a five-cent piece. I applied carbolized cotton to the inside and a charcoal poultice to the exterior, and left to return in two hours. On removing the dressing at my next visit, to my astonment a piece of the cheek, about two and a half inches in diameter, came away with the dressing. There was no inflammation. The gangrene formed a line of separation and came out, leaving ragged edges. While I was redressing this wound the boy complained of pain in the end of his nose; in two hours' time his nose was enveloped in gangrene.

The boy died in forty-eight hours from the first attack.

A case of symmetrical gangrene from pyæmic embolism. What was the cause? I find nothing recorded in books of a like nature. Has anyone among the profession ever seen a case that compares with the above?

TOTAL ABSENCE OF ALL ORGANS OF REPRODUCTION.

By L. B. SNOW, M.D.,

CLEVELAND, O.

The following case called upon me for relief of what she supposed to be an imperforate hymen. Mrs. F- —, German-American, twenty-three years of age, the oldest of a family of seven children, four girls and three boys, all of whom are well developed and perfectly formed as far as known. The two oldest sisters, aged sixteen and twenty, respectively, are menstruating regularly. The family is of exceptional good health. No deformities occur in the family history. Mrs. F—— has been in good health during her life, except the seventeenth, eighteenth, and nineteenth years, during which time she was under medical care a greater part of the time, to establish her menses and regain her health. The latter returned, and her physician told her not to be at all uneasy, the other would come along in due time. Mrs. F——, now having been married three weeks, presented herself as above stated. Upon examination I found her difficulty, and the following day called Dr. C. B. Parker and Dr. C. A. H. Anderson to see the case with me. An anæsthetic was given and a complete examination made, with the following results:

Height, 4 feet 8 inches; weight, about 105 pounds; fair complexion, dark hair and eyes. Features slightly masculine, with a slight growth of fine hair on the cheeks, upper lip, and point of the chin, with a few coarse whiskers which add to her masculine appearance, but not more than is seen in many women. Narrow across shoulders, feminine arms, but rather masculine hands, owing probably to her life of labor. Body and thighs decidedly those of a woman, except a rich growth of coarse black hair about 1½ inch in width, extending nearly the entire length of sternum, but none around the nipples or breasts, simply a strip as though transplanted there. Breasts quite well developed, but not large. Round, full hips and thighs, and mons veneris decidedly feminine; feet and legs below the knees muscular and rather masculine; external genitals, labia majora and minora, meatus urinarius, and hymen perfect, but no glans clitoris could be found. The centre of the hymen looked as though a puckering string had been put in and drawn down tightly, or shut off entirely. Upon rectal bimanual examination, there could be found no trace of a vagina, uterus, Fallopian tubes, or ovaries. It might be said there was a slight band transversely across the pelvis, where the tubes should be, but that was as much imaginary as otherwise. At the extreme left was a slight nodular feeling between the rectum and abdominal wall, but it was not marked and had no resemblance or appearance to an ovary. The patient having been well prepared, the bowels and bladder being empty, and with thin abdominal walls, there could be no liability for mistake or error in diagnosis; and it was the consensus of opinion that it was a case of total absence of all organs of reproduction of either sex, but with perfect external genitals of woman.

This woman being brought up in strict lines, did not know that she was different from other women, only that she did not menstruate. She says she never had an amative passion and doesn't know what it is. Has had some headache which might almost be called periodical, but with no regularity.

I submit this case without comment as I have been unable to look up the literature on the subject extensively, and do not know how often such cases occur; but from what I can find it is certainly a very rare case.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 9, 1892.

A SPEEDY CURE FOR THE INFLUENZA.

DR. JOHN CRERAR, under the above title, describes a method of treatment which is based, he says, on the microbic theory of the disease. His object in treatment is to put the tissues and fluids of the human organism in such a condition that they will not furnish a suitable nutrient medium for the growth of the specific microbe, or, at least, will antagonize the poisons which it produces. He conceived the idea that this would be best done by increasing the alkalinity of the blood; for this purpose he used bicarbonate of potash.

"This salt," he says (*The Lancet*) "has many advantages. It is not unduly stable to make it difficult to break up in the system. It is also readily eliminated, and thus soon leaves the system; so that the danger of potash-poisoning is reduced to infinitesimal proportions. Having found this salt to answer all my purposes, I have not looked for another, although, according to my theory, other remedies of a similar nature might easily give like results. I give liberal doses (thirty grains) in a teacupful of milk every two or three hours. I add a few drops of the tincture of capsicum, but this is not at all essential.

"A word or two of caution. In two or three cases the action of the heart was weakened to an unpleasant degree; but digitalis and the aromatic spirit of ammonia quickly restored normality. Diarrhœa also sometimes supervenes, but is effectually met by Dover's powder. In cases where weakness was induced by previous disease, or where some other disease was a concomitant, or where pregnancy existed, the action of the remedy was somewhat retarded, but not rendered by any means less certain. Where the salt was intermitted too soon, the symptoms returned; but they readily gave way again on the resumption of the treatment. I trust that those who have the opportunity will test the accuracy of my statements by careful clinical observations, as I feel confident they will obtain equally favorable results; for the remedy acts uniformly and satisfactorily; *tuto, cito, et jucunde.*"

We believe that physicians in this country have found salicylate of soda a very efficient drug in influenza.

THE VENTILATION OF THEATRES.

OUR esteemed contemporary *The Lancet* undertakes many altruistic and scientific tasks. Among the latest is an inquiry into the "Ventilation of Theatres and Places of Public Assembly." This inquiry is not yet completed, but we have no expectation that it will be extended so as to reach this city or country. We trust, however, that its results will not be without use to those who build, and those who occasionally occupy, places of amusement and instruction in the United States. We have in the city of New York about twenty-five theatres, besides a very large number of halls and other places of meeting. In our theatres alone there is probably a nightly population of over twenty-five thousand, and each one of this number is for two or three hours poisoned with bad air. We doubt if there is a single theatre in the city whose ventilation is even reasonably good, while in some of the most frequented and popular it is execrable.

Of course very few people relatively spend enough time in the theatre to suffer any serious illness in consequence. The ventilation of theatres is a problem that does not appeal to the masses, perhaps; nevertheless, there is no reason why it should not be taken up and solved in an efficient manner. We understand from the commission report of *The Lancet* that there are at present only a very few theatres or opera-houses in the civilized world which are efficiently ventilated. The first of these is the Grand Opera House at Vienna, and the last is the Amphitheatre of the New Sorbonne in Paris.

MULTIPLYING MEDICAL JOURNALS.

WE quite agree with the esteemed *Medical Mirror* that local medical journals have a useful function, and that every doctor, medical college, and society has a perfect right to have his or its organ. It sometimes appears, however, as if what is theoretically right and what is practically best are not always identical. It costs money and time to publish and edit a journal, and of these two things doctors do not have much to spare. If, therefore, the energy scattered in the production of sixteen periodicals were concentrated into one, the results would be better for the profession at large, though less prominence might be given to certain aspiring institutions or individuals. There is one English weekly containing fifty-eight pages of reading matter and having a circulation of seventeen thousand. It secures better results than if the same matter were dispersed through a number of small journals. The same may be said of metropolitan medical journals on this side of the Atlantic with even larger circulation and wider areas of distribution and supply.

THE SIGNIFICANCE OF EYE-STRAIN.

WE can all recall how in past years certain specialties have had a popularity which was peculiarly great and striking. At one time it was, perhaps, obstetrics, at another gynecology, or rhinology, or some special branch of surgery. The basis of these fits of popularity has lain in the fact that enthusiastic gentlemen at times succeed in persuading the profession that a majority of severe and all minor ills are due to a certain special cause At one time this was ferments in the stomach and yeast-plants in the blood, and meat and hot water was a panacea; displaced wombs and sensitive ovaries, hypertrophic turbinated bones, atonic colons, and fissures and over-sensitive prostates have all been held up at times as the chief of pathogenic sinners.

No offending and pathogenic viscus has had more ardent champions than has the eye; yet one of its defenders has recently asserted in the *Medical News* that, despite some years of presentation and argumentation, the great medical discovery of eye-strain is still ignored. Eye strain, we are told, will cause anæmia, headache, migraine, vertigo, anorexia, dyspepsia, constipation, neurasthenia, hysteria, and insomnia, all of these being extremely common and unpleasant ills; yet people go on suffering from them or getting cured in other ways when glasses will quickly remedy everything. According to the doctrine of our contemporary a major part of the civilized community should be wearing glasses to correct an astigmatism or hypermetropia. Instead of taking tonics and aperients, the dyspeptic needs a quarter of a dioptra correction for his right or left eye, which correction may after a time be reduced to an eighth.

Perhaps one reason why the profession has ignored the "great discovery" somewhat is because there is an uncertainty as to what the discovery is. The dispassionate observer notes that some eminent ophthalmologists find the trouble always in the refraction, others always in the muscles, and each report a remarkable series of successful cases.

It also happens that in many cases headaches, vertigo, insomnia, nervousness, and constipation get well spontaneously under the influences of natural causes, or perhaps through the administration of homœopathy and suggestive medication. Therefore we do not feel so much surprised or so keenly chagrined as do some of the apostles of a spectacled civilization over the fact that a great medical discovery is being ignored. The profession desires that the discovery be established beyond doubt and explained in unequivocal language. Then it will accept it.

CASTRATION FOR NEUROSES AND PSYCHOSES IN THE MALE.

It has often been suggested that it would be quite as reasonable to castrate the male for nervousness and hypochondriasis and neuralgia as to remove the ovaries of woman for analogous troubles. Dr. J. J. Putnam reports a case in which this has been actually done, and the results suggest a field of work for the andrologists which they should hasten to utilize. The case referred to was that of a man now forty-one years of age. He had been unbalanced all his life, and especially so since a severe blow on the head in childhood. The operation was performed three years ago. For some years previous he had been a dipsomaniac, and excessively and openly erotic; and for a time it had been necessary to confine him in an asylum.

The castration was done at his own urgent desire. His friends confirm the statement which he himself makes, that his mental condition improved to a marked extent. He is at present, says Dr. Putnam, unreliable and suspicious to a considerable degree; but his desire for liquor and his erotic tendencies have been absent since the operation, and his disposition has been quieter, so that he is able to live alone and take care of himself, though requiring more or less supervision.

If castration were in the hands of unsympathetic and ambitious female surgeons, the imagination would be a little staggered at the possibilities which a successful case like the above suggests. As it is, we doubt if the operation will become in any way as possible as removal of the tubes and their incidental attachments, although in both instances the operations are founded upon equally irrational and absurd principles.

THE ULCER OF THE EMIN-PASHA-RELIEF EXPEDITION.

Surgeon T. H. Parke gives a most graphic and striking account of what he terms the ulcer of the Emir-Pasha-Relief Expedition (*The Lancet*, December 5, 1891). The most formidable pathological obstacle to the success of the expedition, he says, was the ulcer in question. The disease was first noticed after the party left their base of supplies at Yambaya and began their march through the primeval forest. There the mechanical obstacles which nature had imposed along their path, the permanent exclusion of the sun's rays, the stifling atmosphere reeking with vapors exhaled from the decomposition of enormous quantities of rank vegetable matter, the physical depression produced by prolonged and wearing muscular exertion without an adequate supply of food, the mental depression consequent upon the apparently hopeless character of the task which had been set, all combined to lower the physique of the men to an extreme degree. Under these circumstances the scratching of the smallest papule, the bite of a flea, a louse, an ant, a tick, a "jigger," the more impressive attentions of a mouse or rat, the sting of a hornet, the puncture or scratch of a thorn, the abrasion of cuticle produced by a rub against a projecting stump or branch of a fallen log, or sharp-cornered stone, or the vicious puncture of one of the wooden spikes (makonga) which the watchful natives placed in the pathways as they approached their villages—any one of these agencies produced a breach of continuity of the surface which not only made no attempt at spontaneous repair, but formed the centre of a rapidly spreading ulcer. As the lower extremities were mostly exposed to small injuries, and are placed by nature farthest from the centre of circulation, the necrobiotic process displayed there its most destructive ravages.

Rapid phagedenic ulceration spread from the point of injury, rapidly involving the soft parts and the bones. As the march had to be continued, and as the food was scarce and insufficient, but little could be done for the relief of the sufferers, who were, for the most part, natives.

When a place was finally reached where there was food in abundance and opportunity for rest, even the worst cases got well with surprising rapidity. The ulcers were treated antiseptically as far as the means allowed. Permanganate of potash and carbolic acid were applied, and when the store of these agents was exhausted, gunpowder was found to act exceedingly well.

The Influenza in Great Britain has apparently begun to decline. On the Continent the epidemic is present in St. Petersburg, Berlin, Vienna, and Paris, as well as in many other large towns. The number of cases reported in Berlin is over forty thousand, and in Hamburg the death-rate has risen enormously.

A PERMANENT "RECORD."

We frequently have requests from our readers for information concerning some subject that has been treated of in the columns of the Medical Record one or two, or, it may be, ten or twelve, years ago. They write that they remember having seen it, but that they were not especially interested in the subject at the time, so did not save the journal; now, however, something has occurred to draw their attention to the matter, and won't we be so kind as to send a copy of the journal containing the desired paper, or, may be, a transcription of the article itself.

But why don't our friends save their paper? After they have read it each week, why not lay it aside on the bookshelf and at the end of every six months have the twenty-six numbers bound? The expense of a plain binding is very slight, and the satisfaction of being able only once to put one's hand on a desired article immediately, without the trouble and delay of writing to the editor and asking him to do it, would be worth more than the cost of binding many volumes. Back numbers of the Medical Record are growing more and more scarce every day, and those who have saved their numbers from the beginning have a valuable medical library in them alone.

The Medical Record was not named carelessly, but purposely, and with a view to what it was intended to be—a record of medical happenings and discoveries to which one could in the future turn to learn of all that science had done for the relief of suffering humanity. And now, in looking over the quarter of a century and more since the first number was issued, we feel that we have proven our right to the name, and that these forty volumes are really what their title claims for them—a permanent Medical Record.

THE ESOCARDE.

In 1883 Dr. Salaghi, of Bologna, presented to the Academy of Medicine of Rome a plan for combating various circulatory troubles of cardiac origin by means of rhythmical compression of the peripheral circulation. The idea was that by squeezing the capillaries and veins the blood would be pushed along and the labor of the heart lightened. After making various ingenious experiments with artificial circulations and upon lower animals, he devised an apparatus which he calls an "esocarde," and which he has successfully applied to the treatment of heart disease and various other ailments.[1] The instrument consists of a number of bands which surround the abdomen and base of the thorax. To their ends are attached weights, so that they can be tightened or relaxed at will. In using it the patient lies upon a bed in the supine position. The main work of the apparatus is directed to affecting the portal circulation, since that is thought to be best adapted to mechanical influences. The "esocarde" is indicated in conditions of weak heart and low arterial tension, from mitral disease especially. It is contraindicated in aortic stenosis. Prompt and happy results from its use have been obtained in heart disease, and also in other conditions attended with low arterial tension. Dyspepsia, chorea, chlorosis, neurasthenia, and fevers are among the diseases over which the ingenious Italian's supplementary heart obtains, he asserts, a rapid mastery.

The frog is supplied by nature with an esocarde in the shape of a lymph heart; but it is supposed that the human system has passed beyond the cruder mechanism of reptilian organisms. If we have got to go back, however, to esocardes, Dr. Salaghi's invention will probably fill the need.

[1] Bullettino delle Scienze Mediche de Bologna, 1889–90, Journal de Médecine de Bruxelles, November, 1891.

THE THEORY OF GROUPS.

Some ingenious and mathematical mind would find profit in studying the facts and causes underlying the appearance of medical or surgical cases in groups. The phenomenon is so frequent that almost every physician gets superstitious about it. If he meets a fracture of the neck of the femur one day, he feels sure of seeing another within a week. If a baby swallows a pin to-day, the neighbor's child will swallow its mate to-morrow. If the surgeon is called to an appendicitis on Monday, he will see another on Saturday. A lady goes into a particularly delicious and classical type of hysteria, and presently the doctor is treating half a dozen such cases, and is deeply impregnated with the odors of valerian and lavender.

These coincidences are constant and striking, and suggest the existence of some subtle underlying natural law.

Is it perhaps a conservative effort on the part of nature, that having equipped the doctor with a special and fresh experience, she furnishes him at once with opportunities for its practical use? Or is there some highly spiritualized non microbic form of contagion by which the breaking of a bone in one individual leads to a similar calamity in another? Or may there be somewhere in that higher department of mathematics which deals with the fourth dimension of space and the unity of elemental matter some law of accidents or Pythagorean formula which will explain it all?

We are persuaded that our readers ought to study the matter further, so that in time medical science may furnish a satisfactory theory of groups.

A New Method of Measuring the Capacity of the Stomach.—At the recent Italian Medical Congress, Forlanini (*Rif. Med.*, October 24, 1891) proposed a new method of ascertaining the presence of dilatation of the stomach. He passes an œsophageal sound into the stomach, and by its means distends the organ with air, in no case using a pressure of more than seven or eight centimetres of water; the air is then withdrawn by means of an aspirator and its volume ascertained. By always using the same amount of pressure when injecting, the effects of any treatment on dilatation of the stomach can be readily ascertained.

Journalistic Changes.—Dr. Brooks H. Wells will hereafter edit the *American Journal of Obstetrics*, in place of Dr. Mundé, who has so long and successfully conducted this journal. Dr. John A. Fordyce succeeds Dr. Morrow in the editorship of the *Journal of Cutaneous and Genito-Urinary Diseases.*

News of the Week.

The Alumni of the College of Physicians and Surgeons are to have a dinner at Delmonico's on Saturday evening, January 16th. The Council of the Association think that the recent actual union of their Alma Mater with Columbia College should be thus commemorated. The following gentlemen have consented to act as the dinner committee: Drs. George M. Lefferts, R. F. Weir, F. P. Kinnicutt, M. A. Starr, George H. Tuttle, and Charles Hitchcock.

The Hospital Saturday and Sunday Association.—In a circular issued by the Executive Committee of this Association it is stated that although the annual sums collected each year were larger, the number of hospitals entitled to a share was increasing more rapidly. Last year the undesignated fund was distributed among 26 hospitals. This year 32 will share in it. Last year the total of free days was 428,659. The present year they will approximate 575,000, about 100,000 being due to the increase in the number of the hospitals in the Association, and the remainder to an enlargement of the work of the older members.

Quinine cost $20.00 per ounce in 1823, and $3.00 in 1853; $3.70 in 1878; while now it costs from 18½ to 24 cents.

The Sum of $5,500 has been subscribed to the Volkmann Memorial Fund.

Every Case of Typhoid Fever is a case of water-poisoning. This is a useful item for the public to keep in mind.

Coffee-Tea.—In coffee the leaves are said to contain 1.26 of theine and the berries only 1.0 per cent., and yet over 110,000,000 men use the berries and only 2,000,000 the leaves of coffee, although 500,000,000 use the leaves of tea. It is suggested that coffee-tea be used as well as the coffee berry.

Lettuce is said to contain a minute amount of hyoscyamine, and this gives to the plant its feeble soporific properties.

At the World's Fair there are to be two special hospitals. One of these is to be under the direction of Dr. Owen, and is to be the official hospital of the Exhibition; the other is to be a model hospital in the Woman's Building. In connection with this model hospital will be the Department of Public Comfort, where couches and beds will be provided for such cases of accident or indisposition as do not need serious medical attention.

Part of the Eastern Michigan Insane Asylum at Pontiac was destroyed by fire on December 26, 1891. Many lives were imperilled, but it is believed that none were lost.

Protection for Railroad Employees.—In his Annual Message to Congress the President says: "I have twice before urgently called the attention of Congress to the necessity of legislation for the protection of the lives of railroad employees, but nothing has yet been done. During the year ending June 30, 1890, 369 brakemen were killed and 7,841 maimed while engaged in coupling cars. The total number of railroad employees killed during the year was 2,451, and the number injured, 22,320. This is a cruel and largely a needless sacrifice. The Government is spending nearly $1,000,000 annually to save the lives of shipwrecked seamen; every steam-vessel is rigidly inspected and required to adopt the most approved safety appliances." He recommends the compulsory introduction of automatic coupling for freight cars.

Gynecological Tinkering.—Dr. Joseph Price writes, in the *American Gynecological Journal*, to show that major gynecological operations are often necessitated by too much minor gynecology. The argument, he says, used for the measures referred to is that they increase the chances of conception. "A comparative study of cases undergoing a prolonged treatment of a radical nature, such as application of the stronger acids to the cervix and the endometrium, the frequent curetting of the uterus, the repeated dilatation of the cervix, will prove that conception is less frequent in these cases than in others where all local applications have been discarded and general treatment used, and where treatment has been especially directed to the careful and gentle correction of mechanical dislocations, resulting in engorgement and congestion or inflammation. My own dispensary work is a constant demonstration of the correctness of this opinion. Since abandoning local applications conceptions have increased more than ten per cent. in the same group of cases in which I used local treatment and tinkering early in my experience. I have so often condemned the sound in gynecological work that it will seem foolish, and will, no doubt, be futile, to do so again. To that class of gynecologists who cling to its use, there is but little use of directing proof. Their own experience is not sufficient for any one but themselves, and they will learn from no one else."

The Diseases of the Kidney were formerly nearly all classed under the head of inflammations. This is not correct. Many inflammatory forms of Bright's disease are now known to be degenerative or simply congestive. The inflammations of the kidney, according to Delafield, are: 1, Acute exudative nephritis; 2, acute diffuse nephritis; 3, chronic diffuse nephritis, with exudation; 4, without exudation; 5, suppurative nephritis; and 6, tubercular nephritis.

The Bichloride of Gold Mixture is said to consist of an aniline-colored compound of strychnia and atropia. To this is added Jamaica dogwood, or codeia, for the opium habitués.

The Medical Profession of Louisville, Ky., is taking steps to enforce the State law against quackery.

A Medical Library is to be Established in Pittsburg, Pa. The managers of the Pittsburg Free Dispensary have granted the use of suitable rooms, and a nucleus for the library is formed by the library of the late Dr. Benham, which has been donated by his widow.

Dr. Henry F. Campbell, of Augusta, Ga., died on December 15, 1891, aged sixty-eight. He was born in Savannah, and graduated in medicine at the University of Georgia. He was a surgeon in the Confederate service, and afterward Professor of Anatomy, and later of Surgery, at the New Orleans Medical College. He was President of the American Medical Association in 1885.

The International Congress of Hygiene is to hold its next meeting at Buda-Pesth, which does not seem to be a very good type of a sanitary locality, and will therefore perhaps benefit all the more for holding the Congress. It is announced this week that all the schools are to remain closed till January 6th, on account of the prevalence of infectious diseases. In three weeks no fewer than 319 school children fell ill of scarlet fever, and 31 died; 203 had diphtheria, 74 died.

Vaccination as a Prophylactic against Influenza.—Dr. Goldschmidt (of Madeira) some time ago adduced evidence (*Berlin. klin. Woch.*, November 19, 1890) that vaccination had a prophylactic influence as regards influenza. An epidemic of small-pox broke out in November, 1889, and rapidly extended over the island. In January, 1890, influenza made its appearance, the epidemic reaching its height in February and March, disappearing gradually in May. Just at the time it was becoming severe, revaccination was becoming extensively practised on account of the contemporaneous invasion of small-pox, and it was observed that all successfully revaccinated persons remained exempt from influenza. Goldschmidt observed 210 cases of revaccination, 112 being successful. Out of the 98 without result, only 15 contracted influenza, and even these were very slight cases. In an isolated villa with 26 inmates, of whom 14 were not revaccinated, all the latter were attacked with influenza, in two cases very dangerously; while all those who had been revaccinated remained free. In a recent paper Goldschmidt presents further evidence in support of his view.

The Academy Prizes.—Nineteen prizes, ranging in value from $75 to $1,000, were recently awarded by the Paris Académie de Médecine. Among the more important were the Laborie prize of $1,000 for the best works on surgery. This was divided between Dr. Thiéry ($500) for a work on "Surgical Tuberculosis," and Dr. Delpit and Dr. Delorme. The Academic prize of $2,000, "On the Part taken by Air in the Transmission of Typhoid Fever," was also divided between Drs. Sicard, Delahousse, and Boucher. The Barbier prize of $500 is given to the discoverer of a cure of diseases hitherto supposed incurable. Half of this was given to a veterinary surgeon for a work on "Acute Mammitis." Most of the Meynot prize of $500 was given to Dr. Nocati, of Marseilles, for a work on the "Aqueous Humor." We note that nearly all the prizes were rather freely divided, a practice indicating apparently a low standard of excellence in the competing essays.

Dr. James Risdon Bennett died recently, aged eighty-two years. Dr. Bennett graduated in Edinburgh in 1833, and was afterward appointed Lecturer at Charing Cross Hospital. He became Fellow of the College of Physicians in 1846, and was elected President in 1876. In addition to his connection with St. Thomas's Hospital he was Physician to the City of London Hospital for Diseases of the Chest. He had been a member of the General Medical Council and of the Hospital Sunday Fund Committee. He received the honor of knighthood in 1881.

Dr. Louis Felix Henri Féréol, of Paris, lately died, aged sixty-seven.

The Results of Modern Antiseptic Management of Labor.—Out of 1,340 women delivered in Professor Tarnier's wards during the past academical year, only 14 died, thus giving a mortality of 1 in 95, or 1.04 per cent. Eight years ago the mortality, calculated on the same number of cases, reached 2.50 per cent.; while thirty years ago one parturient out of 11, or nine per cent., died. Better results than Tarnier's can be shown, we venture to say, in some of the hospitals of this city. At the New York Infant Asylum, in 1890, there were 219 births, and no deaths recorded.

Movement of the Bowels per Os.—There are a great many painful and disagreeable things connected with pathological disturbances in human economy; but none could possibly be more exquisitely disagreeable than a systematic reversal of intestinal peristalsis. Such a condition of things, however, is described in *La Médecine Moderne* (*Medical Press*) as having occurred in an epileptic patient of M. Desnos. For two years this unfortunate creature had a movement of the bowels by the mouth only, at about 6 P.M. daily. The event was, of course, in the nature of a stercoraceous vomiting.

The Point of View as to Actinomycosis.—There seems to be a difference of opinion as to whether people ought to eat sarcomata and substances of that nature.

The Illinois Live Stock Commissioners decided that lumpy jaw in cattle is contagious and renders the meat unfit for human food. A convention of cattle-raisers further West, the other day, resolved that lumpy jaw is not contagious and does not render the meat unfit for human food.

Dr. Stefani, of Milan, asserts that a mixture of tartaric acid and bicarbonate of soda acts as a hypnotic.

The Annual World Mortality from Suicide is estimated to be 180,000. Suicide is rare among mountain dwellers, or among those who live in marshy plains.

Dr. Joseph Clarence Tucker died at his home in Oakland, Cal., on December 23, 1891, aged sixty-three. He was a descendant of Dr. Robert Tucker, the first physician who graduated in America, and who was licensed as such by King's College (now Columbia), in this city, in 1751. The deceased, who was born in New York, on taking his medical degree went to California, with the first emigration, in 1849.

Dr. R. E. Warner died in Seymour, Conn., on January 1st, of pneumonia, aged thirty-seven. He was a graduate of the Yale Medical School.

The Night Medical Service of New York died a natural death. The night service of Paris, however, continues, and reports show that over 2,000 calls are made yearly.

The Well-known Surgeon, Professor Léon Tripier, of Lyons, died recently, aged forty-nine.

A National Board of Health.—Senator Harris, Chairman of the Committee on Epidemic Diseases, has introduced a bill in Congress providing for the creation of a National Board of Health, and defining its powers. The board is to be under the control of the Treasury Department, and is to consist of seven members. Three mem-

bers are to be sanitary scientists, and are to be appointed by the President, by and with the consent of the Senate, not more than one to be chosen from any one State. These three members are to receive $5,000 salary each. Three medical officers are to be detailed, one from the Army, Navy, and Marine Hospital service, respectively, to receive no other compensation than their salary. and the seventh member is to be detailed from the Department of Justice, and to be learned in the law—no pay except his salary as judge. The object of the bill is to better enforce the quarantine laws with reference to the introduction of epidemic diseases from foreign parts.

To Increase the Hypnotic Power of Sulphonal.—Dissolve the sulphonal in three-quarters of a cup of hot water, add cold water until the temperature of the water allows it to be drunk, when it may be administered. Its action sets in at once and causes no disturbance.

Dr. Henry O. Mayo, United States Navy, died in this city, December 31, 1891.

The City of London has established a Public Health Department.

New York City's Birth-rate in 1890.—For the first time in many years the reported birth-rate of New York City has exceeded the death-rate.

The Weapons of Modern Warfare.—On December 2, 1891, Professor Billroth delivered a speech in the Austrian Parliament on the probable effects of the new weapons in the next war. *The Lancet* translates the most important passages as follows: "The experience of army surgeons teaches that wounds caused by shells and cannon-balls are very slight compared with those caused by rifle projectiles; that very few wounds are inflicted by artillery, still fewer by cavalry, for cuts and stabs are very rare. About eighty per cent. are due to rifle-fire. The attention of army surgeons must therefore be directed mainly to rifle projectiles. As to the effect of the new projectiles, it is true we have no experience. Some think it will not be so bad; they will shoot in future at so great a distance that the bullets will either not hit at all or seldom, or go too far, and soldiers will confine themselves to manœuvring the enemy out of position, and go in less for slaughter *en masse*. Manœuvring out of position, however, is a thing which has its limits. The tug of war must come at last. Owing to the greater range and propulsive power of the new rifle, its effect will be important, and the bullet, which used to be stopped when it struck a bone, will go through it, and perhaps through two or three more. The range of the new projectile is said to be a kilometre and a half (about fifteen-sixteenths of an English mile). The number of the severely wounded will therefore be much greater. The rapidity of the firing will be still further increased by the circumstance that the smokeless powder will allow the enemy to be better seen. Owing to the greater range of the projectiles, too, the rear hospitals will have to be further back, and the difficulty of transport will be proportionately increased." Professor Billroth then spoke of the effects of the smokeless powder, and pointed out that the storming of fortified points will be possible only with tremendous sacrifices. *Per contra*, several recent cases of gunshot wounds with the new rifles appear to show that the bullets make small, clear wounds that cause no shock, but act like a stab, and if no vital part is struck do little damage.

The Journal of the American Medical Association prints a list of nearly six thousand members. We note that New York heads the list in number of members, and also that New York physicians are the most frequent contributors to its pages. Indeed, New York and Pennsylvania contribute nearly one-half of all the original articles. Illinois comes next in the list and stands second in membership.

The World and the Doctors.—"The world refuses to admit that physicians should govern their conduct by the laws of business, however honorably applied. When the physicians of Findlay, O.," says the *Journal of the American Medical Association*, "during an epidemic, raised their fees from the modest sum of one dollar a visit to the still modest and inadequate sum of one dollar and a half a visit, the whole country was notified of their barbarity by the inconsistent people of that town, who but a few short months before had flocked there for purposes of speculation, and who had held farms and 'town' lots at enormous figures because they could, and who had not hesitated to receive such sums for their land as the 'gas boom' brought on, and who took particular pains to close out their deals before the drop came." A recent attempt by the physicians of South Chicago to form a protective association led an attorney to announce the remarkable doctrine that physicians, being licensed by the State, could not withhold their services when demand for them was made. Preposterous!

Supplies for the City Hospitals.—The Commissioners of Charities and Correction have advertised for bids for supplies for Bellevue and the hospitals on Randall's and Blackwell's Islands. Among other things wanted are 4,200 gallons of rye whiskey, 350,000 yards of gauze, 12,000 pounds of absorbent cotton, 6,000 pounds of absorbent lint, 4,000 pounds of carbolic acid, 3,500 ounces of quinine, 125 ounces of morphine, 4,000 pounds of castile soap, 2,500 pounds of castor-oil, 410 gross of prescription bottles, and 1,875 gross of corks.

A Special Hospital for the treatment of skin diseases will soon be opened in St. Petersburg.

The Marine Hospital Service.—There is said to be some commotion at the head-quarters of this service, occasioned by the attempt of the former supervising surgeon to be reinstated in the position he formerly occupied before going to Chicago. The latter city was found not to be as agreeable a place of residence as Washington. The present head of the Marine Hospital Service naturally is not anxious to be deposed to make way for his former superior, and is said to be at work strengthening his defences in order to resist the attack.

The Prix Broca, which is awarded at the École de Médecine every year to the student who has made the greatest advance or discovery in the science of anthropology, has been presented to Dr. Carlier.

Warm Ether as an Anæsthetic.—We learn from the *Independencia Medica*, of Barcelona, that on October 31, 1891, Dr. Giné y Partagás performed an operation for osteoma of the fibula on a woman, in the Hospital de Santa

Cruz, of that city, the anæsthetic used being ether warmed to 31° C., which was administered by Dr. A. Diaz de Liaño, with an apparatus of his own invention. Anæsthesia was rapidly induced, and was kept up for fifty-five minutes without any accident. The temperature of the ether remained at 31° nearly to the end, when it fell to 29 5°. The apparatus, which is called by its inventor an "electro-thermo-etherizer," has since been used in several other cases with equally satisfactory results, anæsthesia having on one occasion been kept up for two hours and a half without any ill effect. Dr. Diaz de Liaño claims that by his method the disadvantages both of cold ether and of chloroform are obviated. Our contemporary promises a full description of the apparatus at an early date.—*British Medical Journal.*

Apomorphine in Fever.—Dr. W. B. Miller reports a case (*British Medical Journal*) showing apparently that apomorphine, dose gr. $\frac{1}{10}$, is an antipyretic.

Billroth on the Position of the Doctor in Society.—In a recent speech before the Austrian Parliament on the bill to establish "Aerztekammern," or a general medical council, Professor Billroth said that he had learned of three classes of public teachers that swayed the populace in morals and culture, whose duties were tolerance, peace, and humanity. The priest has the power of the Church behind him; the advocate the protection of the law, under the authority of State, with the support of his "Chamber;" but the doctor dangles in mid-air, between heaven and earth, with nowhere to rest; his habitation from door to door, with no more protection than any other burgher; no protection beyond individual conversation; who may, at any individual caprice, be injured without any hope of redress. Notwithstanding this, the doctor is entrusted with individual lives, where the simple neglect of inhaling a drug might be fatal, or during the anæsthesia the will of the less scrupulous might be satiated; yet his calling is left without any special professional protection. During the discussion on this bill he had read very disparaging arguments against the establishing of "Aerztekammern," maintaining that the profession had now become discredited and could no more expect to obtain the trust and confidence reposed in it in former years. A number of the profession did not scruple to advocate this assumption, but these were men, he contended, unworthy of the profession, whose motives and assurances were false. On the contrary, there never was a time when the profession stood so high in morality and scientific knowledge. A glance at the region of operative surgery was proof enough for this argument. Science and practice, however, are not necessarily bound together. The patient has his social opinions formed, which must be modified or overcome by the attendant, who is constantly placed between performance and progress. The doctor cannot appeal to his patient on the ground of science, or his practice will soon fail, no matter how scientifically accurate in diagnosis or prognosis. Doubtless our predecessors had more respect in being more positive and better suited for public opinion, where science could hardly be recognized by a third of the profession, while three-fourths of it was conducted on speculation. After detailing the various relationships that existed between the attendant and patient, he pointed out that the modern scientist had one great difficulty to overcome—the fee. The advocate could be on friendly terms with his client, and reckon up the details of his account with accuracy and profit, but this was different with the doctor. The patient called on him, met him and consulted him in the street, or invited him to call at his home, but a detailed reckoning was out of the question, or the doctor is a mercenary fellow, etc. In this direction he thought the "Aerztekammern" would remove a good deal of asperity, where the profession would be protected under a State concession.

Australian Medical Congress.—The Third International Medical Congress, of Australia, will be held at Sydney, in September of this year. Those desiring information concerning the meeting should address Dr. Knaggs, 16 College Street, or Dr. Anderson Stuart, Sydney University, Sydney, N. S. W.

The Death of Dr. Levi Olmstead Wiggins makes a sad break in the ranks of the younger medical men of this city. He had shown such unusual mental ability that a brilliant future seemed in store for him, and he possessed to a remarkable degree those qualities which made him a good friend and a good physician. He entered Yale with the class of 1885 the youngest man in his class, obtaining the highest mark ever given in that college on entrance examinations, and was graduated as the valedictorian. At the College of Physicians and Surgeons of this city he stood second in his class and took the Harsen prize of $200 for general proficiency at examination. During his third year at the medical school he was the assistant of the late Dr. Henry B. Sands. He passed through the regular medical service as a member of the house staff at Roosevelt Hospital and then studied for a year in Vienna and Dublin. While serving in the Rotunda in Dublin he was attacked with double pneumonia, from which he only partially recovered, and returned to this country in the spring of 1891. Since that time he has steadily declined and died suddenly at his home in Newburg, Sunday, December 27, 1891. He was a thoroughly good physician and commanded the respect and affection of all who knew him

Denver Undertakers have for some time been in the habit of burying people whenever they felt inclined without the formality of a permit, but now it is said that the Board of Health has issued very stringent instructions to funeral directors and superintendents of cemeteries. Hereafter the funeral director in charge will be required to present the burial permit to the cemetery officials before any interment will be allowed. It was a Denver undertaker, we believe, who used to display an attractive advertisement with the taking legend, "You kick the bucket, and we do the rest."

Northwestern Medical and Surgical Society.—At the Twenty third Annual Meeting of the Northwestern Medical and Surgical Society of New York, held December 16, 1891, at the Hotel Cambridge, the following officers were elected: *President*, Dr. Edward S. Peck; *Vice-President*, Dr. Charles L. Dana; *Secretary*, Dr. Henry L. Taylor; *Treasurer*, Dr. Frederick Peterson. Several important changes were effected in the constitution and by-laws of this time-honored society.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 3, 1891.

ALFRED L. LOOMIS, M.D. PRESIDENT, IN THE CHAIR.

Increase of Annual Dues. — The question of raising the annual dues from ten to twenty dollars, to meet the increased running expenses of the new building, arose, and Dr. Crampton offered as an amendment that the dues be made fifteen dollars. Dr. Laurence Johnson and others opposed the amendment, saying that the majority of the Council, and the treasurers of the Academy and Board of Trustees, all agreed that a less sum than twenty dollars per member would leave a deficit at the end of the year. Drs. John Irwin and Dessau were in favor of leaving the dues at ten dollars, and of raising the other ten by assessment, as was done last year. The President said that, doubtless, in time the Academy would receive further donations, and it was likely the dues could soon be reduced again to fifteen dollars, or perhaps ten dollars; but at present they could not get along with a less sum than twenty. The original motion recommended by the Council, to raise the dues to twenty dollars, was carried.

Drainage of the Uterus in Chronic Endometritis and Metritis, with or without Salpingitis.—DR. WILLIAM M. POLK read the paper. His remarks, he said, would be less upon the principle of drainage, the correctness of which all would admit, than upon the practical application of it in the class of cases referred to in the title of the paper, those of chronic endometritis and metritis, with or without salpingitis. It might be stated almost as an axiom, that any procedure which could be applied successfully only by one or two operators was open to question. It might be that the plan which he proposed would share the fate of many going before it, be looked upon as the fad of an operator striving for novelty. The consensus of the best opinion, even at the present day, was in favor of the extreme obstinacy of chronic inflammation of the body of the uterus, and some went even so far as to pronounce it, under conditions which were measurably common, incurable. There was very general fear of intra-uterine medication, and it seemed to be a rather prevailing view that even the best methods of treatment altered but little the unfavorable prognosis.

The author would not have dared invade the uterus as a matter of routine, had it not been for the lesson which he had learned in vaginal hysterectomy. It seemed that if one could take out the uterus with comparative immunity, he ought to be able to drain it with absolute safety. All that was necessary was perfect cleanliness.

The conditions to which he had applied the method of treatment which he was about to describe included acute as well as chronic inflammation of the uterus and its appendages, but in the present paper he treated of chronic inflammation only, that which passed under the names chronic endometritis and chronic metritis, with or without associated salpingitis. The type of disease known as endometritis fungosa had been present in quite a fair proportion of the cases, and also in them, when the curetting was thoroughly done preliminary to the draining by gauze, the result had been as good as one could desire. Where any form of flexion existed a permanent result was obtained only after correcting the flexion. Still, its existence did not constitute an objection to the gauze-packing, for here the packing cured the endometritis more quickly than any other means before employed by him; yet the deformity of the uterus was dealt with either at the time of the packing or subsequently by operation, pessary, or stem, as seemed necessary in the individual case.

It was in cases of endometritis or metritis, associated with salpingitis, that this mode of treatment was likely to meet the greatest opposition, for it had long been taught that in the presence of peri-uterine inflammation the interior of the uterus was not to be invaded.

The author favored an attack on the interior of the uterus in chronic endometritis and metritis, because by so doing one could prevent extension of the disease into the sound appendages, and where the tube was affected he might so modify the disease as to limit the damage done. Where but one tube was affected it could be safely left if uterine drainage were resorted to, whereas without such uterine treatment, to leave the healthy tube would be to invite a second laparotomy for its subsequent removal. Where an acute process was at work he tried first to allay it with hot douches, etc., but if it did not yield soon to such methods he proceeded to treat the interior of the uterus. But the question which forced itself upon all minds was, Was the treatment dangerous, would it produce a peritonitis or a salpingitis? He could answer, most certainly, if it were done improperly. But properly done, it would not. In proof of this statement he presented temperature tracings, etc., of over forty cases, which would enable all to judge for themselves of the immediate effect of the treatment. The ultimate results would relate to the permanency of the cure, and on this point he could only say that none of the patients had returned for treatment, and some having remained under observation six months or a year had been practically well. Immediately after the operation there was likely to be a slight elevation of the temperature, continuing twenty-four to forty eight hours, but this was due not to any peritonitis or other serious inflammation, but rather to the surgical result, as was seen in many other operations.

Before describing the method of treatment, Dr. Polk gave a synopsis of some cases illustrating different classes. One was that of a German woman, aged twenty-one, admitted to Bellevue, October 12th, giving a history of pelvic inflammation beginning five months before, coming on after what was undoubtedly an induced abortion. She had been treated at the dispensary for chronic salpingitis during three weeks. That improved. When admitted, the uterus measured four inches and a half; it was sensitive and partially fixed, evidently upon the left side. There was a very sensitive mass in the region of the left broad ligament. A few days later the uterus was curetted and packed with gauze. It was again packed about seven days later, this time the os being so well open that it was not necessary to give a general anæsthetic for its dilatation. Seven days later the canal measured three inches; there was no tenderness, no discharge, and the patient went out cured.

In another case there was disease in one tube, which he removed, leaving the other healthy one, dilated the uterus, packed with gauze, and in a month the patient left the hospital in good condition. He mentioned this case to show that he did not hesitate to attack the interior of the uterus for endometritis, for the purpose of preventing extension of disease to the other tube, one tube having been found diseased and was removed. He had had three or four such cases, and all had done well. If adhesions were found, he broke them up at the same sitting.

The details of the operation pertaining to dilatation of the uterus, curetting, and insertion of gauze, were given, together with particulars of antisepsis. Bichloride solution was used in the vagina and uterus. The operation called for a strip of cheese-cloth of three feet, four thicknesses; a large-sized cervical speculum which was introduced with a plug in it; a speculum, long dressing-forceps, Volsella forceps, a good dilator—he preferred bougie dilators—a sharp curette, a fountain syringe, glass tube, and a general anæsthetic; for in seventy-five per cent. of all cases general anæsthesia was called for, in the remaining twenty-five per cent., mostly cases of subinvolution, the os being sufficiently dilated to call for only a local anæsthetic.

The vulva, vagina, and cervical canal were as thor-

oughly cleansed as if the intention were to take out the uterus. After dilating the cervix so that the speculum could be introduced, the uterus was irrigated with bichloride solution, the speculum insuring a good outflow. Then the walls were gone over thoroughly with the sharp curette, the energy of the attack being gauged by the density of the walls, as shown by their resistance. After this, repeat the washing with bichloride solution. The gauze, which had been since the first irrigation standing in a solution of bichloride, 1 to 500, was now put in simple hot water and squeezed dry, and inserted with the tampon screw into the uterine cavity, the end of the strip being coiled up against the cervix in the vagina, further supported by another tampon in the vagina. It was allowed to remain in six days, and then, if it had not been expelled it was removed, and a cleansing douche was given. The seventh day the patient could get up, and the length of time she remained from her work, unless the tubes were involved, never exceeded two weeks. Rarely was a second treatment called for.

Dr. W. T. Lusk, being invited to open the discussion, said that he had had no experience with the method described by Dr. Polk, but that he meant to give it a trial. Of course, he had been for many years an ardent advocate of the principle of drainage. Anyone who had seen the wonderful results of even simple dilatation of the cervix in cases of catarrh of the cervix and interior of the uterus, would be prepared to believe at once in the success of the method practised by the author. When inflammation once developed within the uterus it could not be cured as long as the lining membrane was constantly bathed in unhealthy secretions. The first necessity was to cleanse the canal and keep it clean, and to do that dilatation was necessary. As previously stated, he had seen excellent results from dilatation, curetting, and application of compound tincture of iodine in the uterus. Indeed, from such treatment he had seen many cases of tubal disease get well, which led him to think that many cases of tubal disease were due to simple damming up of secretions at the cervix. Many years ago a physician from Brooklyn went to a number of medical journals to have printed an article describing the use of a steel dilator, but it was rejected, and he came to Dr. Lusk, who was led to write an article on the subject of forcible dilatation of the cervix, which was printed in the *New York Medical Journal*, but, he believed, met with general condemnation. He often wondered why a procedure which then was said so commonly to produce metritis, peritonitis, etc., could now be practised with as little risk as attended filling a carious tooth.

In subacute conditions of the uterine cavity he had practised a method differing somewhat from Dr. Polk's, with most astonishing results, seeing patients who formerly would have been given up as practically moribund, begin to revive and improve immediately after cleansing the uterus.

Dr. C. C. Lee had practised curetting and drainage of the uterus, but in cases where he had removed submucous fibroids, or where the patient had had an abortion, etc., and in a manner somewhat different from that described in the paper. On looking over his records he had also found over forty cases of endometritis so treated the past three or four years. He divulsed, and used all the antiseptic precautions named by Dr. Polk, except that he injected simply hot water instead of bichloride into the uterus. Instead of inserting gauze, he put in a glass tube for a drain, leaving it in ten days.

Dr. W. Gill Wylie said that dilatation and drainage of the uterus, if not by gauze, yet by some other means, had been taught and practised at least twice a week the past eight years at the Polyclinic. Thus, uterine drainage was certainly known to more than two thousand of the younger men scattered throughout the States. Essentially the same speculum shown by the author had been used at the Woman's Hospital about twenty years ago, but this one was too large to enter the canal except in cases of subinvolution, and in them simple curetting and irrigation would answer without special means for drainage. But in cases of imperfect development of the uterus, with dysmenorrhœa, sterility, endometritis, etc., the internal os could not be dilated sufficiently to let the speculum enter, or for the introduction of gauze. The statement made by some authors that the internal os could be dilated an inch and a half or an inch and a quarter was erroneous; it would tear first. In such cases of chronic endometritis he had tried various instruments for drainage, but had put all aside for the hard-rubber tube with a slight bulb on the upper end to hold it in place, and which, placed in hot water, could be bent into the desired shape. If there were any acute symptoms, as fever, in cases of uterine disease complicated with tubal enlargement, the method should not be practised. Again, he would not use the curette in a large, soft uterus until he had reduced it in size by preliminary treatment. It was easy to pass the curette through the walls of the uterus in such cases. Thus he would advocate drainage, but in a modified way. In some cases the curetting, cleansing, and drainage would prove only of temporary benefit, why he could not say.

Dr. George M. Edebohls resorted to divulsion and thorough curetting without drainage, and was thus enabled to cure cases of endometritis without salpingitis, as indicated by enlargement of the tubes or sensitiveness of them on palpation. But where there was associated salpingitis, something more would be called for; that is, the curetting should be followed by drainage, and of the various modes of draining which had been proposed he thought the one described by Dr. Polk would prove the most thorough. He thought there was no danger in invading the uterine cavity if one observed perfect asepsis and gave free exit to the secretions subsequently; and when there was disease of the appendages, or even pyosalpinx, the operation was not serious provided undue mechanical insult were not offered in pulling down the uterus, etc.

He had practised drainage of the uterus in three cases of pyosalpinx, in which the tubes would empty themselves through the uterus and fill again from time to time, being convinced that the obstruction was at the cervix and not in the uterine end of the tube; he introduced Outerbridge's speculum inside of the internal os and left it in a month or two. The girls had had no further attacks, the last one having been treated as long ago as a year. He would not have dared resort to the use of this speculum had not the cavity already been secreting pus.

Pre-eminently Surgical.—Dr. Florian Krug regarded the treatment described in the paper as pre-eminently surgical, and therefore sound and sensible. Gynecology was too much handicapped by rules of treatment laid down in the pre-antiseptic period. In endometritis, the uterine cavity should be looked upon as an abscess-cavity, and be treated in the same way. It had been his custom for three years past to dilate the cervix, curette the interior of the uterus, and introduce iodoform gauze in his practice at the German Hospital, taking due antiseptic precautions by cleansing the vagina and uterus. He thought it was well that a warning should be sounded to those who were in the habit of applying nitric acid, strong currents of electricity, and all sorts of caustics to the interior of uterus without having made thorough dilatation and given all chance of egress of secretions.

Endometritis not Demonstrable Post Mortem.—Dr. T. A. Emmet said that twenty-five or thirty years ago he treated cases of subinvolution and endometritis by dilating the cervix with tents, then throwing in hot water until the uterus contracted down again, and in a large number of cases the effects for a time were admirable. True, he lost a patient now and then, he did not know why. Gradually he gave up this practice because his patients did not remain cured, and also because patients with subinvolution could almost always be cured by an operation on the cervix, which usually in them was lacerated. He thought, however, that the treatment recommended

in the paper had a field of usefulness in cases where the tube was discharging pus into the uterus. He had been trying to apply the general principle in sueh cases the last year or two, and although he had not met with much success, yet he thought it deserved a fair trial. He believed that in some cases the pyo-salpinx was cured by the pus escaping through the uterus and the walls of the tube becoming adherent to one another, in the same way that any abscess-cavity disappeared.

As to thus treating endometritis and chronic metritis, he would be very glad if someone would tell him what those diseases were, or rather demonstrate them at the dead-house. He had been unable to find any such condition at autopsy, although he had often looked for it. Nor could he understand how an inflammation of the lining membrane above the internal os could exist in a woman who was menstruating, for there was no true mucous membrane above that point. Unless an injury had taken place above the internal os at parturition, or there were a new-growth, he did not believe a diseased condition could exist there any length of time which nature would not cure. He never any more made an application or even put the sound into the uterus, unless there were a new-growth or some injury caused by parturition. He could not imagine an unmarried woman having a condition of uterus above the internal os, unless there were a new-growth, which could require direct treatment.

Where a hypersecretion existed it indicated a new-growth, and was a symptom, not a disease. Results might he obtained from making applications in so-called endometritis to the cavity of the uterus, but better results would be obtained if the applications were made only within the vagina. The disease was not above the internal os. In subinvolution the treatment was hardly worth applying; the symptoms would return unless other measures were resorted to.

Dr. H. J. Garrigues objected to the use of bichloride of mercury, and recommended one per cent. creoline, which was antiseptic, not poisonous, and had further advantages in being slippery and somewhat hæmostatic. He also showed a forceps which could be introduced up to the fundus, and took the place of a cervical speculum when one did not wish to dilate. Electricity could be used without dilating the cervix and do no harm, for the reason that it was itself an antiseptic.

Dr. Polk closed the discussion. He did not doubt but what creoline was just as good an antiseptic as bichloride, but the latter applied to so small a surface could not cause symptoms of poisoning. Regarding the use of the term endometritis, he employed it in the sense it was used in the text-books. Replying to Dr. Wylie, he said he claimed no novelty in the cervical speculum employed, and he supposed even Dr. Wylie would not claim priority as to the principle involved in the mechanism of a speculum. Regarding his charge that the speculum and gauze could not be introduced except where there was subinvolution, he did not doubt that from Dr. Wylie's stand-point they could not; but if Dr. Wylie would come to his ward he would demonstrate to him that from a clinical stand-point they certainly could. And as to the principle of drainage having been first taught at the Polyclinic, that could not be, for this principle was as old as the speakers themselves.

Dr. Wylie: I was referring to the practice.

Dr. Polk: And you say you have been trying to get the profession to adopt your mode of applying drainage for fourteen years? Now try mine, and if you do not accomplish anything at the end of three, I will give you the right to denounce it heartily. [Laughter.]

The International Congress.—It was at first decided to hold the Rome Congress in the spring of 1893, about Easter time, but it is now thought that September will be the time appointed. If the expected row, for which the nations of Europe are in training, comes off, the Congress will doubtless be postponed to a more propitious season.

Correspondence.

THE EARLY STRUGGLE—"NOT AN EXCEPTIONAL CASE."

To the Editor of the Medical Record.

Sir: The editorial in the Medical Record for December 19, 1891, under the above caption, carried the writer back to a period early in the last decade, when five chums assembled about the boarding-house table and discussed plans for life-work. Hopeful in the possession of beautiful diplomas, with visions of a row of broughams drawn up in line before the office-door, and with the words of the graduation-day orator still ringing in our large and willing ears, we certainly were entitled to fine plans. B, C, and the writer decided to work for hospital appointments, but A and D thought it best to go at once to their home towns and begin practice with their respective preceptors. B, C, and the writer were successful in the hospital examinations and all received appointments. Two years passed. D found that his preceptor was a friend while the prestige of having him as a student lasted, but having become something of a rival on graduation, matters were altogether different. At the end of two years he was disgusted at the slow, up-hill work among the poor class of patients in town, who were the only ones that his older competitors did not get, and being a bright active fellow he came to New York again, and engaged in business as a speculator in Wall Street, where he could at least have some fun and excitement in making a failure. A, by this time had found that he was on the way to become an excellent country practitioner, who at the end of a long and tedious experience would be able to do a great many kinds of things for his patients, but who could never do any one thing well—not from lack of ability, to be sure, but from lack of opportunity to work up special medical subjects thoroughly. This did not suit his disposition, for he was a scientist by nature and by training, so he entered the army and there found opportunity to do work in his scholarly way.

C, after graduation from hospital went West and spent about three years in various towns, trying to find a place where there was less competition than in New York, but being unsuccessful in this search he returned and died just as he was gaining a decent foothold here.

B, having finished his hospital course, began professional life in the office of an older practitioner in New York who could turn over to him the poorer part of his overflow. B is a splendid fellow, of everlastingly genial and joyous disposition in the face of all obstacles, and with a constitution that would shame a locomotive. He gleaned among the poor patients assiduously, staying up all night perhaps with a patient who could pay him thirty-four cents for services, and walking six miles to save car fare. Now in this new decade he has a very large and profitable general practice on Murray Hill, and not one of his host of friends would grudge him a cent or a patient in his collection.

The writer, after completing his hospital training in New York, went to Europe for the purpose of working up special subjects, for a general practice, and upon his return, when ready for work, found that he had spent about ten years of time and about twelve thousand dollars in money in his medical preparation. He could have had money from paternal sources, but pride induced him to deprive himself of any important aid from that quarter, and to depend upon himself. He had no friends in New York except a small handful of struggling young medical chums like himself, and a few older boarding-house acquaintances. All that he wanted was a whole lot of the sick folks that he was prepared to treat, but they didn't come very fast. The records of his first year's income are lost, but it amounted to a little less than five hundred dollars. In the second year he made eight hundred and forty dollars (collected). Third year, fourteen hundred and ninety dollars (collected). Fourth year,

twenty-three hundred and eleven dollars (collected), and so on in this progressive ratio until the present time when his business is upon a sound footing. He found that people would not trust him with "good" cases while he was doing all sorts of work, so he gradually gave up general practice; then ophthalmological and orthopedic work that he had put a great deal of time and money upon; and he finally is happy in special work, with the backing of a circle of professional friends upon whom he can depend. He encountered but three obstacles to success: 1st. Youthfulness. 2d. Being of a sensitive and retiring disposition he found that this would defeat him in New York, and the forced bold stand that he took led him into a few mistakes that would have been easily avoided with the smooth policy that comes of riper professional experience. 3d. He has followed very closely a system of gentlemanly ethics in dealing with rivals, and this, which resulted from home training, has cost him many a patient and many a dollar, for the said rivals have taken advantage of the trait with the regularity of clock work, and it is only the comfort of an easy conscience that makes compensation.

Perhaps there is a lesson and a little more hope in this simple tale than was given the young medical man in the editorial which called out the writer.

PATULA.

NEW YORK, December 22, 1891.

MEDICAL EDUCATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Nothing in the pages of your admirable journal of late has interested me more than the recent address of Dr. Stephen Smith on the "Art of Teaching Medicine," and the letter of Dr. W. A. Pusey on the same subject.

The remarkably rapid growth and prosperity of Post-Graduate schools, the popular demand for a longer period of undergraduate study, and the universal use of quiz compends, are signs of the times and have no uncertain sound. They are indisputable evidences that something is wrong—either that the time is too short, that the system of instruction does not make the best use of it, or that the intelligence of medical students is on the decline. The first and last of these conclusions we all know are untrue, so that the second naturally concerns us most. The advances in the art of teaching medicine have not kept abreast of the marvellous advance in all its branches.

Reading and studying are two very different things, and didactic lectures are prone to develop the former at the expense of the latter. The year formerly spent in reading medicine in a "doctor's office" before going to college has proved to be a waste of time, and so, too, the first-course student reads in a desultory sort of way, when studies and examinations would impress on his mind, more forcibly than didactic lectures, the first principles of our art.

Now, if, as Dr. Smith suggests, this first year was passed under competent instructors, whose duty should be to fix regular lessons for daily recitation, the practical results would be better. Having attended college a good deal myself, and lately as a teacher, I have always observed what a large proportion neither know how nor what to study. They have either not had a good general education, or from force of circumstances have lost the habit of studying and thinking at the same time.

The scheme is practicable, for in all large cities there are numbers of young men who have an abundance of time, and would be willing and able to teach in this simple way, which to the more experienced and learned professor would be arduous and uninteresting.

There is no one branch in which this way of teaching is more important than in anatomy. Few students can be made to appreciate the truth that anatomy is the foundation of all medical knowledge, or that it will be of incalculable benefit to them in their future studies and practice, until in after-life their ignorance of it and the value of it is forcibly demonstrated by some misadventure.

The appetite for food and the thirst for knowledge differ so that one is normal and the other almost abnormal in the majority of us. Appreciating this fact, I have introduced the recitation system, somewhat modified, into the dissecting room at the Medical College of the State of South Carolina, and we hold periodical practical examinations over the dissected subject which all students are obliged to stand. This plan with first-year students has worked admirably, for by this system they are able to appreciate and understand such didactic lectures as may be given later in the course.

The same plan would no doubt work with a great advantage in the other elementary branches.

The whole country is urgently demanding a longer period of study for the degree of M.D. with license to practise, and this has certainly become necessary, for it takes more than one or two years to become familiar with all the modern branches of practical medicine. But this element, time, can, I believe, be materially reduced by better methods of teaching, and a change in the present mode of instruction such as is advocated by Dr. Smith seems eminently advisable.

EDWARD F. PARKER, M.D.

70 HASELL STREET, CHARLESTON, S. C.

PLACENTA RETAINED FOUR MONTHS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Noticing in the MEDICAL RECORD of November 7, 1891, a case of retained placenta of twenty-two days' duration, reported by Dr. Lamadrid, of Brooklyn, I am led to report a similar one.

March 25, 1888, I prescribed for Mrs. B——, aged thirty-nine, for a threatened miscarriage. She was the mother of five children, and had one miscarriage in 1884, to which I will refer later. March 27th, in spite of all precautions, she was delivered of a two months' fœtus, without medical attendance. Upon visiting her the next day she informed me that the placenta had not been passed. She was not flowing, and her symptoms were favorable. I plugged the vagina, removing the tampon the next day, but the placenta remained. Daily for ten days I visited her, expecting and prepared to remove the placenta should symptoms suggestive of complications appear. She, however, made a satisfactory recovery without my further interference. I dismissed myself from daily attendance, fully explaining to her the state of affairs.

During the first month hemorrhages occurred; after this menstruation became regular. She seemed as well as usual, did her own housework, and walked long distances. She was under my casual observation during this time. July 27th, or just four months after the miscarriage, the placenta came away intact. The patient brought it to my office. It was in a normal condition, and after hardening it in alcohol I prepared sections for the microscope, which I have preserved.

Some may criticise my method in not removing the placenta at the first visit, but I had an experience with this same patient in July, 1884, which I wished never to repeat. It was a miscarriage at four months, with placenta retained. Immediate removal was attempted, but only after an ordeal most trying to both patient and physician was it effected. Aside from any desire to save my patient from a repetition of her former agony, my ideas of the methods of removing placentæ, and the necessity therefor, had altered. My present custom in all cases of abortion, with retention, is to plug the vagina, packing well up against the cervix. This reduces the danger of post-partum hemorrhage, and the pressure of the mass against the cervix induces expulsive pains. I leave the patient with perfect confidence, and on removing the tampon the next

day, almost invariably find the entire after-birth lying behind it in the vagina. In this case the failure of the above precaution probably was attributable to the fact that the tampon was inserted eighteen hours after delivery of the fœtus. The opportunity of utilizing and seconding nature's expulsive pains, which are apt to follow immediately on delivery of the fœtus, was thus lost. The placenta of full-term pregnancy is a very different affair, it seems to me, from the placenta of miscarriage. Should I leave a patient after delivery at full term without the complete removal of the secundines, I would deem myself guilty of malpractice; whereas with an abortion, after a moderate use of Cordé's method, and failure therefrom, I invariably tampon and go away.

Hemorrhage or symptoms of septic absorption would compel me to use as prompt and energetic measures as at full term pregnancy. But I have never had a patient who would come under either of the two classes mentioned. Granted that the placenta is completely adherent, and the blood-vessel connection uninterfered with, you have a piece of living tissue in said placenta. It is nourished, and may remain for some months and be passed free from any odor. Or it may remain an indefinite period, shrivel up, undergo retrograde metamorphosis, and be found even at the death of the woman.

In volume ii., pages 333 and 335 of the "Cyclopædia of Obstetrics and Gynecology," edited by Charpentier, and translated by Dr. Grandin, the following cases are quoted: "Schöller has noted retention for 11 weeks; Metz for 2½ months; Prost, 103 days; Flasse, 15 weeks; and Reichmann, 13 weeks." The placenta in all these cases came away odorless and without having caused disturbance.

Hecking reports a case where the placental remnant was passed at the end of four and a half months, and only after many profuse hemorrhages which compromised life.

On the other hand, Kilian, Böhmer, Sandifort, Vallisnieri, Morgagni, Van Swieten, Camerarius, Dedek, and Niemann have recorded cases where foreign bodies containing fœtal débris have been found after death in the uterus of women of the age of seventy-five, eighty, and ninety.

NELSON G. RICHMOND, M.D.

FREDONIA, N. Y.

COCKLE-BURS IN THE LARYNX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 28, 1891, Professor Francis L. Parker, of Charleston, S. C., reports four cases of this accident that had come under his care, and refers to two others that were reported by Dr. Pendleton, of Hartford, Ky., and states that these are the only cases he had ever seen or heard of.

In the *St. Louis Courier of Medicine* for February, 1887, was a valuable contribution upon the subject by Dr. S. T. Armstrong, of Memphis, Tenn., in which he reported a case where the bur had been in the larynx for six days, which was relieved by tracheotomy.

Dr. Armstrong then refers to the different modes of treatment, viz: 1. Removal by forceps or other similar means. 2. Removal by tracheotomy. 3. Letting the bur remain *in situ*, with trust in the *vis medicatrix naturæ*.

As an illustration of the first the following reported cases are briefly referred to:

1. Dr. L. A. Deugas, in the case of a negro boy who swallowed a cockle-bur, found difficulty in removing it, because the movements of the larynx prevented the seizure of the bur, which could be felt with the fingers; passed forceps along his finger and removed the bur.[1]

2. Dr. W. C. Glascow removed a cockle-bur by the Schrotter Turck forceps, and also records a case wherein these failed, and subsequently tracheotomy failed; and eventually the bur was removed by a curved forceps.[2]

3. Dr. Max Thorner removed a cockle-bur, located between the vocal cords, after failure with the Schrotter forceps, by the sponge instrument of Voltolini.[3]

4. Dr. D. B. Crowley, who could feel with his finger the cockle-bur in the larynx of a negro boy, having no instruments at hand, wrapped his index-finger with cotton, passed it into the throat by a rotary motion, entangled the spicules of the bur, and so removed it.[4]

The author then refers to a paper by Dr. J. R. Weist upon "Foreign Bodies in the Air Passages,"[5] in which paper he says Dr. Weist records twenty-six cases of cockle-bur without operation, of which nineteen recovered and seven died; while in eleven cases operated upon all recovered. He then gives three other cases of successful laryngotomy, by Drs. Van Note,[6] W. S. Rose,[6] and C. W. Jordan.[6]

And furthermore, if Dr. Parker will refer to page 175 of *The Medical Mirror*, 1890, he will see where I reported two cases of cockle-bur, one in the trachea, in a lad eleven years of age, which was coughed up on the sixth day; and one in which the bur was behind the faucial pillars; tracheotomy was performed by an inexperienced physician, who thought the bur was in the trachea, the result being immediate death.

In addition to these reported cases I have seen an infant, two months old, who had a cockle-bur in its throat for two days and nights, which prevented its nursing or swallowing any but the smallest quantities of fluid. The bur could be felt with the finger, and while I was trying to seize it with forceps, it slipped down the œsophagus, and was passed from the rectum on the second day. The child did well. This was on March 15, 1876.

We have, therefore, forty-six or seven cases of cockle-bur on record, above the six that Professor Parker gives us.

Respectfully,

CHEVES BEVILL, M.D.

WINFIELD, ARK., December 3, 1891.

[1] Southern Medical and Surgical Journal, 1853.
[2] St. Louis Courier of Medicine, 1879.
[3] Cincinnati Lancet-Clinic, July, 1886.
[4] Medical News, December, 1886.
[5] Transactions of the American Surgical Association, 1882.
[6] St. Louis Courier of Medicine, 1884.
[6] Louisville Medical News, 1885.
[6] Transactions of the Mississippi State Medical Society, 1886.

ALCOHOLISM AND MENTAL PARALYSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The following bit of personal history, which seems to throw some light on the subject of the responsibility of persons while in a state of alcoholic intoxication, is worthy of attention. The source is entirely trustworthy, the gentleman being well known to me, and it is with his consent that I offer it for publication.

I would also state that the writer of the sketch was, and has been since, a man of the most temperate habits.

DWIGHT L. HUBBARD, M.D.

344 WEST THIRTY-THIRD STREET.

"**A Quart of Champagne.**—In 1862, after the Army of the Potomac returned from the Peninsula, all of it moved to the front to take part in the battle of Antietam except the Third Corps, to which I was attached. That corps was camped near Alexandria, around Fairfax Seminary. In the campaign of the Peninsula my battery was much reduced, and while camped near Fairfax Seminary I received a large detachment of recruits. I then had four Napoleon guns, and the men received made my battery strong enough to increase the equipment to six guns. Accordingly I made requisition for two Napoleon guns and equipment, and for the horses required. The requisition for ordnance stores required to be approved by several officers. First by Captain Webber, the Chief of Artillery of the Third Corps, and commanding Battery H, First United States Artillery; next by General Sickles, commanding the Third Corps; then by the Chief of United States Artillery, at that time General Howe, in Washington; next by the Post Ordnance Officer at Washington, Captain Harris; then taken to the Ordnance

Bureau, in the Winder Building, where the requisition would be copied and an order given on the arsenal for the ordnance stores. This routine I knew perfectly, having gone through it many times.

"Upon the day I went to Washington to have the requisition approved and get the order for the ordnance, I had the requisition approved by the Chief of Artillery of the Corps and by General Sickles; Lieutenant Dimmick, of Battery H, First United States Artillery, accompanied me to Washington. As usual, we rode over on horseback, and having put up our horses we went to Gautier's restaurant and called for dinner. We ate our dinner and with it drank two quart bottles of champagne, that is, one quart each. At sunset we rode back to camp, getting there at dark. My recollection of all that occurred after the dinner is distinct, and subsequent events fixed it in my mind. Having finished the dinner, I went to General Howe and had the requisition approved; then to Captain Harris, who approved it; then to the Ordnance Office, to General Dyer, who ordered the copy made, and secured the order for the stores; then I went to the arsenal, presented the order, and was told to bring the horses on the following Wednesday, when the stores would be ready. According to custom the order was filled. This was a half-day's work, and occupied all the time between the dinner and the time to return to camp. Of all these things my recollection was, and is, perfect. The facts appear to have been different, and the wine must have been the cause.

"On the following Wednesday, with the necessary men and horses for a section of guns, I went to the Arsenal for the stores, and called for the order. I should have said before that I knew every officer in the routine of approval of the requisition personally and quite well. The officer in charge looked over his list of orders and did not find it. I said it was there, and told him what kind of paper it was made out on, white with a blue tinge, that I recollected the paper perfectly. He ordered the search made again, but with no better success, and asked on what day I left the order. I replied on Friday. He said he was in all that day and did not recollect seeing me. I told him I was there, saw him, and talked with him, but as it was late I left soon. He said he could not account for it, as he could have given me the equipment as well on Saturday or Monday as on Wednesday. I thought he was in error and had mislaid the order, but I could not get the equipment without the order, and leaving the men and horses at the Arsenal I returned to the Winder Building, told General Dyer that they had mislaid the order at the Arsenal, and asked that another be made from the requisition. He directed a clerk to get the requisition, but it was not to be found. I insisted that I had taken it there, and had waited for the order to be made, and had taken it to the Arsenal. Another search was made with like results. General Dyer said he did not recollect seeing me Friday. Still there was no doubt in my mind, as my recollection was perfect. I went to Captain Harris's office and asked for the record. He examined his books and found no record of it, nor did he remember of my being there on Friday. Still I told him I was correct, and he again examined his books, but found no entry. I then went to General Howe's office and asked for a memorandum of the requisition. He examined his books and found none. I spoke of being there on Friday, and he did not remember it. To this time I had not once thought of the explanation. I was confident of every step I had taken, and could only think that each officer was in error. Meanwhile, during the entire day, my men and horses had been standing at the Arsenal.

"In riding from General Howe's office to the Arsenal the truth first came to me that I had been drunk from the wine, and the day's work was altogether one of imagination. Knowing the routine well, my mind had assumed the doing of the work, but it had not been done. I then tried to unravel the mystery in my own mind. I felt in my pockets for the requisitions, which if I had not used on Friday I was so confident of having. I had not even attempted to look at these papers during the day—but did not find them, nor did I ever find them or know what became of them. I then examined my pocket-book to see if I had lost any money, which I had not noticed. I found I had not. I had had no use for money, and what I took to Washington on Friday I had there on Wednesday, so I was sure I had not been on any carouse or been robbed. I attempted to account for my time between the dinner and the time I met Dimmick by appointment made after the dinner, and which I kept, to go to camp together. But no light came. I could account for every minute of the time in my own mind, but it was the routine with the requisition. But now I knew that I had not done that work. No other light came to me then, and never has to this day. I found the men and horses at the Arsenal, then near night. I gave them only the brief military information that there was an irregularity in the requisition and took them back to camp.

"I never at any time had been intoxicated, and then had no recollection of feeling any symptoms of it at the time I drank the wine. As soon as occasion offered I made such inquiries of Lieutenant Dimmick as would give me the information I needed to satisfy my mind about that Friday afternoon. He saw no indications of intoxication, but it may be assumed that he was also more or less intoxicated, but I do not think he was beyond a full appreciation of everything that passed. His recollection agreed with my own as to making the appointment to meet at a certain hour to return to camp together. This appointment was made after dinner, was kept to the minute, and we returned together. I did not remain at Gautier's restaurant, but went out with Dimmick, and together we went to the stable and got out our horses, he riding off one way and I another. At the appointed hour we came together again and rode to camp. After the attempt on Wednesday to get the guns, and failing, I made out another requisition, and, of course, got the approvals without drinking wine in the intervals between the different officers approving it.

"What became of that half-day is a great mystery to me. I have thought of it many times and followed it through in all I could remember. Sleep would be the most natural explanation, but where could I have slept! I got my horse with Dimmick when he got his, therefore, I could not have been in the restaurant. I would not have been permitted to sleep in any irregular place, for Washington was patrolled every hour in every part. My clothing showed no indication of having been lain on, and if I called at any officer's quarters and slept the effects of the wine off, I never heard it alluded to after. I did not go to a hotel, or I should have missed money enough from my pocket-book to have at least paid the bill. There is but one solution that I could ever think of, and that was that I went to sleep or became oblivious on horseback, and having a good horse and being a most excellent rider I went from place to place in so regular a movement that the patrol did not even discover that I was not in perfect control of myself. This may have been so, as I had and have since frequently slept on horseback while marching with my command. The afternoon having worn away, I recovered myself, and finding by my watch that it was time to meet Lieutenant Dimmick, I did so as agreed upon. But even this solution is the merest supposition, as I could never in the most remote sense solve the mystery of that afternoon and what I did while under the influence of the wine.

"Lieutenant Dimmick was killed by my side at Chancellorsville, May 2, 1863."

The above memoranda was written in 1865. A gentleman of prominence and wide experience having read the above statement made this memorandum on it. "It is certainly an interesting experience, and it illustrates, as in many other ways I have seen illustrated, how it is possi-

ble for men in courts of law to swear to things that never occurred, with perfect honesty and with the most positive assurance of certainty."

ON THE ADHESION OF THE URETER TO THE PERITONEUM.

To the Editor of the Medical Record.

Sir: Dr. Cabot, of Boston, in his interesting article on the anatomy and surgery of the ureter, just published in the *American Journal of the Medical Sciences* for January, 1892, in which he reports cases of his own and of others where a calculus impacted in the ureter has been removed by surgical interference, makes a statement that is somewhat astray. When speaking of the difficulty of recognizing the ureter in the living subject, during an extra-peritoneal operation, he says that "there is a relation of the ureter to the peritoneum which I cannot find mentioned in any description of its anatomy, a knowledge of which will greatly simplify this search. This is the fact that the ureter is adherent to the peritoneum, and always separates with the peritoneum as it is stripped up from the parts behind."

This is doing some injustice to the many excellent works on operative surgery which can be found on the shelves of every working surgeon. In the "Operations in the Dead Body," by I. Smith, for instance, there will be found under the caption of "Ligatures of the Common Iliac Artery," the words: "Little thought need be bestowed during the operation on the spermatic vessels and ureter, as they generally rise with the peritoneal sac, and adhering to its under surface are scarcely observed." In Jacobson's "Operative Surgery," p. 609, the same fact is stated, and similarly it is contained in the works on this subject of Bryant (J. D.), Bergmann, and Rochs, and in many others that might be cited. This adhesion was taught by the late Professor Sabine, and I learned it myself from Dr. Gurdon Buck, of the New York Hospital, when I was an interne in that institution. Dr. Cabot's investigations have led him, in this new field of operative work, to so many valuable suggestions, that he will, I trust, pardon the correction that I venture to make.

Yours most truly,

R. F. Weir, M.D.

A PHYSIOLOGICAL METHOD OF ARRESTING HEMORRHAGE.

To the Editor of the Medical Record.

Sir: A most able and thoughtful article in the Medical Record of January 2, 1892, written by Dr. Dawbarn, upon "Medical Hemorrhages, Treated by Saline Infusions, Surgically Administered," suggests to the writer the propriety of presenting to the profession a physiological measure which he has never known to fail in the subjection of hemorrhage.

This is attained by acting upon the nervous centres in such a way as to cause an increase of nervous force, which will expend itself upon the terminal ends of the nerves supplied to the coats of the blood-vessels in the bleeding area.

The idea and effective carrying out of sequestration or retirement, so to speak, of the blood into the limbs, by applying pressure around the four extremities close to the body, is scientific and excellent, for it naturally depletes the hemorrhagic area to a great extent. The injection also of a hot saline solution into the arterial circulation, after great loss of blood has taken place, to supply a volume of fluid to float the remaining red blood-corpuscles throughout the body, thus enabling them to perform their proper functions, as well as forming a medium for their rapid renewal, is sound and logical in theory, and evidently works well in practice. Yet, if the hemorrhage can be rapidly and perfectly controlled in post-partum cases, without the use of internal remedies or local abdominal applications, or injections into the womb, but by apparently a simple, yet in reality a most powerful, agent applied over the ganglia supplying nerves to the uterine arteries; then we have the most easily applied, the most effective, and the least harmful practice in such conditions.

Firstly, it checks the hemorrhage rapidly, and so prevents undue loss of blood, and thus obviates the terrible consequences of such loss at so important a time.

Secondly, directly the hemorrhage is checked, the patient becomes comfortable, the womb contracts, and the pulse in the wrists and temples full and regular, demonstrating an even distribution of the circulation in all parts of the body.

The method referred to is the application of heat over the dorso-lumbar sympathetic ganglia, in a double-columned Chapman hot-water bag. The water should be 120° F. The bag should be filled and placed over the spine. The bottom of the bag should not be lower than that portion of the lumbar region directly opposite the crests of the ilii, and extend straight upward; the spinous processes fitting in between the columns of the bag.

The explanation of the action of this treatment is, that the heat acts directly upon the sympathetic ganglia beneath it, causing the arteries of the ganglia to expand, thus, by increased nutrition of the central cells, augmenting the function of these cells, which now issue stronger nervous currents than before to the arterial coats of the vessels in the uterus, causing them to contract normally, and so checking the hemorrhage; but this is not all, for the more powerful nervous action of the sympathetics is carried to the motor area of lumbar enlargement of the spinal cord, inducing a hyperæmia in these cells, and therefore an impetus is given through the direct motor nerves to uterine contraction. In proof of the power one irritated nervous centre has to transfer irritation to another nervous centre Ferrier says, page 81:

"It seems to me that the phenomena of electrical irritation of the corpora quadrigemina are mainly of a reflex nature, and depend upon the transference of irritation of sensory centres to motor centres and tracts." All know how one hand placed in cold water will cool the opposite one, and numerous corroborative instances might be given. It is possible that the heat over the sympathetic ganglia may act upon them through the sensory nerves of the skin, but after eleven years almost of experience in this system, I am myself convinced that the effect produced upon the centres is direct. Dr. Chapman, of Paris, says in his work on "Functional Diseases of Women," page 61:

"Flooding, when the womb fails to contract after expelling its contents, and indeed uterine hemorrhage from all causes, will probably be restrained or stopped most effectually, and certainly most agreeably, if at all, by the application of heat over the lumbar region, on each side of the spinal column. I have given evidence sufficiently decisive of the remedial power of heat in menorrhagia, and in soothing the patient meanwhile, to assure obstetricians that they may safely, and probably successfully, test the efficacy of this agent, applied as suggested, when they are called upon to prescribe in cases where health or even life is imperilled by loss of blood from the womb."

In conclusion I would say that I have myself stopped hemorrhage from various organs by the application of heat over the proper section of the spine, many times; and have permanently relieved menorrhagia in a number of cases, and checked metrorrhagia. Directly the hemorrhage ceases, and the womb contracts firmly, the bag should be removed, to be used again immediately if required. The bag should be refilled every hour and reapplied until satisfactory results are obtained, and taken away until again necessitated.

B. O. Kinnear, M.D.

46 West Seventeenth Street, January 2, 1892.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 2, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	7
Scarlet fever	224	34
Cerebro-spinal meningitis	2	2
Measles	117	13
Diphtheria	125	36
Small-pox	0	0
Varicella	8	0
Pertussis	2	4
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Duration of Life.—A German statistician has obtained the following statistics in regard to duration of life: The average is thirty-seven years. Before the seventeenth year a fourth of the population dies. But one person in a thousand attains the age of one hundred years; six in a thousand reach the age of sixty-five years; 35,214,000 persons die during each year; 96,480 each day; 4,020 each hour; 67 every minute; while there are born 36,792,000 annually, 100,800 daily, 4,200 hourly, and 70 in each minute. The average duration of life is greater in the married than the unmarried individuals, among civilized than among uncivilized communities; while tall people are longer-lived than those of shorter stature. The chances for life, as regards men and women, are more favorable for the latter before the age of fifty, for the former after that age. Married persons bear the proportion to single ones as seventy-five to a thousand. Those born in the spring are more robust than those born at other seasons of the year. More deaths and births occur during the night than during the day.—*The Sanitarian.*

The Deportment of the Physician.—The *British Medical Journal*, commenting on the veto by the Governor of Georgia of the "Drunken Doctors Bill," says: "It is to be feared that the Georgia legislators do not stand alone in wishing to impose on the members of the medical profession a code of ethics different from that which is found sufficient for the rest of mankind. It is no doubt flattering that we should be thought to stand on a higher plane of morality than ordinary men, but at the same time this giddy ethical elevation has its inconveniences. A doctor is, after all, human, and it would be to the last degree unjust to condemn him to professional ruin for an offence which entails no such heavy penalty in the case of lawyers, engineers, men of business, and, we may venture to add, legislators. There might be something to say in favor of making drunkenness in itself a punishable offence wherever, or by whomsoever committed, but medical men may not unreasonably complain of being singled out from the community as fit objects for special temperance legislation."

A Smart Trick.—A Canadian medical student recently smuggled a skeleton into Canada from Detroit by dressing it up, properly padded, in woman's clothes, putting on it a hat and a thick blue veil, and seating it alongside of him in a buggy while crossing the ferry. After he had got it by the customs officers and into his own house, he learned that there was no duty on skeletons. His opinion of his own cleverness has fallen a degree or two.

Small-pox and Vaccination in Guatemala.—According to the *Gaceta Medica Quezalteca*, no fewer than twenty-five thousand deaths were caused by small-pox in one of the most recent epidemics in the Republic of Guatemala. Our contemporary is discreetly silent as to the havoc wrought by the disease in previous outbreaks, but the single item of statistical information just referred to *donne furieusement à penser*. Guatemala appears to be a veritable antivaccinationist's paradise: it has no vaccination laws of any kind, and the Government declines to concern itself about a matter which it probably looks upon as beneath the notice of legislators. We recommend Guatemala to the notice of the fanatics who wish to bring back free trade in small pox, as a climate more suited to their intellectual constitution than that of this country. England would, with perfect equanimity, see these new Pilgrim Fathers leave her shores for some less Jenner-ridden clime, where they could worship their favorite goddess Variola in peace, and where they would find the fullest scope for the exercise of their perverse statistical ingenuity.—*British Medical Journal.*

The Feeble-minded in Russia.—During the last five years, of 1,852,689 men between the ages of twenty and twenty-five who presented themselves for military duty in Russia, no less than 3,390 were discharged for mental unsoundness, or 1.8 to every thousand of the entire draft. In the Siberian districts 46,676 men were drafted, of which 117 were disqualified for the same reason, indicating 2.5 to the thousand. In the three Governments of Caucasia 3,327 men were called in and 20 of their number, or 6 to the thousand, were dismissed. Dr. Ignatieff, of St. Petersburg, taking those figures as a basis, estimates the number of feeble-minded in Russia proper as nine to every thousand of the entire population, and proportionally greater numbers in Siberia and the Caucasus.

Carbolic Acid as a Cosmetic.—There seems to be a belief in some of the rural districts of England that carbolic acid is good for the complexion, and with a desire of increasing as quickly as possible her beauty, a girl at Eastbourne took a large dose internally. The result was somewhat disastrous, though fortunately the would-be charmer's life was saved.

Medical Education in Portugal.—The medical curriculum in the University of Coimbra, Portugal, is of five years' duration. The first year is devoted to normal anatomy, histology, and general physiology; the second to topographical anatomy and operative surgery, special physiology and private hygiene, pathological anatomy and histology, and toxicology; the third to materia medica and pharmacology, surgical pathology, general pathology, and history of medicine; the fourth to internal pathology, obstetrics, and clinical surgery; and the fifth to clinical medicine, forensic medicine, and public hygiene. The University is provided with several laboratories and museums for practical teaching. Besides dissecting-rooms and an anatomical museum, there are histological work-rooms and a physiological laboratory; a work-room and museum of morbid anatomy and histology; an "arsenal" of operative surgery; laboratories of clinical medicine and toxicology, microbiology, materia medica, and pharmacy, and a "pharmaceutical dispensary." There are four clinics, two medical, one surgical, and one obstetrical (gynecology is nowhere mentioned, but perhaps it is included in the "tocological" department). Before entering the faculty of medicine students are obliged to go through a three years' course of preliminary study in the Mathematical and Philosophical Faculties. The first of these years is occupied with mathematics, inorganic and analytical chemistry; the second with organic and analytical chemistry and physics; and the third with botany, zoology, and advanced physics. The total course of study for the degree of Bachelor of Medicine is therefore of eight years' duration. For the higher degrees of Licentiate and Doctor further courses of special study are required, and they are only taken by "distinguished students."

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SUGGESTIONS IN REGARD TO REFORMS OF THE PRESENT METHOD OF PERFORMING THE DUTIES OF CORONER IN THE STATE OF NEW YORK.[1]

BY STEPHEN SMITH, M.D.,

NEW YORK.

Sanitary Science.—Social order and public safety alike demand a complete revision of our methods of inquiry into deaths from unknown causes. At the very foundation of an intelligent and efficient administration of laws, rules, and regulations for the protection and promotion of the public health, are accurate vital and mortuary investigations and registration. No health authority can exercise its functions properly which does not thoroughly understand the causes of sickness and mortality among the people. Prevention is the sole duty of this branch of the public service, and no adequate remedial measures can be adopted and enforced for the protection and promotion of the public health without accurate information in relation to the causes of diseases, their sources, the laws which govern their development and extension, and the methods of control or prevention. This knowledge can only be adequately obtained by exhaustive inquiry into the circumstances and conditions under which every case of death occurs, by persons fully qualified to employ the latest resources of science in their investigations. We hold, therefore, that it is not only a legitimate function of the health authorities to fully investigate every death, but it is their duty in the interest of the public health and public safety. And especially is this obligation imperative in the cases of deaths from violence, or from sudden and unknown causes, for in general these deaths were preventable.

And such investigations by the properly constituted health authorities are equally essential to the proper administration of criminal justice. Medical science has now attained that perfection, in its methods and appliances in the investigation of the causes of death, that its conclusions have the certainty and exactness of the exact sciences. It has been repeatedly demonstrated that an expert medical examiner can trace in the tissues and organs of the dead the secret history of crime, and often fix the responsibility upon the criminal as no other form of evidence could. And in the same manner it has shielded from punishment the innocent, whom imperfect and superficial examinations of the dead would have condemned.

The reform proposed in this paper in the methods of investigating deaths from unknown causes, and the criminality involved in such causes, now lodged in the office of coroner, consists in a close alliance of the latter office with the local health boards of the State. It is evident that the duties of the coroner must be twofold, viz.: 1, a medical inquiry as to the cause of death, and 2, a judicial inquiry as to the perpetrator of the crime when death was effected by another party. These two inquiries differ widely in their scope and management. The first requires only expert medical knowledge, the second is purely judicial. Though both inquiries are important, the first takes precedence of the second, for on the accuracy of the former depends even the necessity of the latter. The preliminary investigation should properly, therefore, be made by the medical officer or officers of the board of health within whose jurisdiction the death occurred. The practicability of imposing this part of the investigation upon the health authorities is apparent when we consider how complete is the sanitary organization and service of the State at the present time. Every city, incorporated village, and town is now required by law to have a thoroughly well-organized board of health, as will appear from the following references to the Statutes:

Chapter 270, Laws 1885, provides as follows:

Section 11. "It shall be the duty of the Common Council, upon the nomination of the mayor of every city in this State, except in the cities of New York, Buffalo, Albany, Yonkers, and Brooklyn. . . . to appoint a board of health for such city, to consist of six persons who are not members of said council (one of whom, at least, shall be a competent physician). . . . The mayor of such city shall be a member, *ex-officio*, of such board of health, and shall be president thereof. The said board of health, when duly organized, shall appoint a competent physician (not a member of such board) who shall be health officer of such city."

Such is the provision for the organization of boards of health in the cities of the State, with the exceptions mentioned. The following is the plan of organizing boards for incorporated villages, provided in the same section:

"And it shall be the duties of the trustees of every incorporated village in this State to appoint, once in each year, a board of health of such village, to consist of not less than three nor more than seven persons (who are not village trustees). . . . The said board of health thus constituted shall elect a president and appoint a competent physician (not a member of such board) to be the health officer of such village."

Finally, the act provides for boards of health in townships, as follows:

"It shall be the duty of the supervisor, the justices of the peace, and the town clerk, in each town in this State, to meet in their respective towns within thirty days from the date of the town election of each year, and elect a citizen of such town, of full age, who with them shall constitute the board of health. The said board shall appoint some competent physician, not a member of the board, to be the health officer for such town."

Such is the law which gives to this State a completely organized public health service, whose jurisdiction covers its entire territory, and which takes cognizance of the health of every community, and of every birth, marriage, and death occurring in it. The powers of these boards are very large, as will be seen. Among the duties of the health officer is that of receiving, examining, and securing the registration of all certificates, records, and causes of death, and findings of coroners' juries. The board is empowered to designate the persons who shall grant burial permits for the burial of the dead, and transit permits for the transportation of the dead bodies of persons which are to be carried for burial beyond the limits of the county. And it is made the duty of undertaker, sexton, or other person having charge of the body of any dead person, to procure a record of the death, and its probable cause, duly certified by the physician in attendance on the deceased during his last illness; and there shall be no burial or removal of the body of any dead person until said duly certified record shall have been

[1] Read before the Section on Public Health of the Academy of Medicine.

presented to the board of health, or person designated by them, and until thereupon a permit for burial or transit shall have been obtained.

It is made a misdemeanor when any person neglects or refuses to make out or file for registration any record, or when any person causes, permits, or assists in the burial or removal of any dead body without a permit duly issued.

The board has power also to impose penalties, and to maintain actions in courts to collect penalties, not to exceed $100, for the violation of, or non-compliance with, its orders and regulations; to restrain by injunction such violations; to issue warrants to any constable or police, and to the sheriff, when necessary to bring to their aid the power of the county.

Finally, these local boards of health are under the jurisdiction of the State board of health, which is required to supervise their operations, and whenever they fail to perform their duties properly in the matter of registration of deaths, to take charge of the records and enforce the rules and regulations.

It is apparent from this review of the organization of the sanitary service of the State, that we have in operation a most complete system of verification of deaths, extending to the remotest districts and communities. In addition, the local boards of health embody in their membership all of the elements necessary to a thorough medico-legal investigation of every death having a suspicion of crime in its causation. The health officer is a competent physician, and experience proves that he is usually the most competent physician of the township. In the larger cities the staff of medical officers is composed of competent medical men, the selection being made from recent graduates from the schools and hospitals. Many of these boards also have chemical and pathological experts attached to the service, who may be called at any time to aid in the investigation of cases where their special knowledge would be useful.

But the question arises, if the boards of health perform all the duties required in the medical examination of suspicious deaths, what provision can be made to secure the proper discharge of the legal or judicial duties? As the coroner is recognized in the constitution of the State, the legislature can only regulate the office by assigning duties and prescribing the methods of their performance. The scheme herein proposed requires that there should be a court competent to make the preliminary inquiry into the criminal features of a case of death by violence, and though existing magistrates can lawfully act in that capacity, there is no doubt that the ends of justice would be more thoroughly subserved if there was in each county one or more persons, specially qualified, whose sole duty it should be to act as magistrates in these cases. These magistrates might be designated "coroners," and be elected as the constitution directs. The law should require, however, that the coroner should be a qualified attorney-at-law.

If the necessary legislation were secured to effect the reform here proposed, the result would be that in every city, village, and town throughout the State there would be competent medical examiners in the immediate vicinity of persons dying from causes having a suspicion of crime. Those examiners are now daily engaged in certifying to the causes of death of all persons dying within the jurisdiction of their respective boards of health, and are, therefore, the first to take cognizance of any death where there is a suspicion of crime. Every case which now requires a coroner's inquest would be at once made the subject of a preliminary examination by the health officers of the local board of health, and if there were any satisfactory evidences of crime all the necessary steps would be taken to have the inquest by the coroner complete in all of its details.

The practical operations of this new arrangement of the duties of coroners may be seen by applying it to a given county. The law provides that there shall be a board of health in every city, incorporated village, and town. In most of the counties there are four coroners, though in Onondaga County there is but one, while in Queens County there are seven, or one for each town. If we select Otsego County, we find that it has six incorporated villages, and twenty-four towns, which gives to its health duties thirty boards of health, and of course the same number of health officers. We could not by any scheme more effectually create a system of verification of deaths reaching to the most remote communities than is now organized and ready for immediate service. In the same county there are four coroners so located as to divide the territory properly among them. If they were lawyers, whose duties were limited to holding inquests without juries, and taking the necessary steps to secure the arrest and commitment of all persons implicated in the crime, the whole field of inquiry, medical and judicial, would be promptly and efficiently covered.

The following would be important features of a bill essential to secure the legislation necessary to carry into effect the proposed reform. To make the law operative in New York, Brooklyn, and perhaps some one or two other cities, which have peculiarly organized health organizations, special provisions should be made.

This outline of a bill embodies many of the provisions of the present law of Massachusetts, which has been in successful operation fourteen years. That law abolishes the office of coroner, and provides medical examiners in each county, appointed by the Governor. As we cannot abolish the office in this State by a legislative enactment, it seems wise to utilize the machinery which we have at hand as well as the office of coroner itself. Especially is this true when by such utilization a system can be perfected which gives promise of being even more effective than that of Massachusetts.

Section 1.[1] It shall be the duty of any citizen who may become aware of the death of a person who shall have died from criminal violence, or by a casualty, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in any suspicious or unusual manner, to report such death forthwith to the health officer of the city, village, or town in which the body of the deceased person lies; or to any police officer, whose duty it shall be, without delay, to notify said health officer, or the president of the board of health, or commissioners of health of such death. Any person, except the health officer, who shall wilfully touch, remove, or disturb the body of any one who shall have died in the manner described in this section, or who shall wilfully touch, remove, or disturb the clothing or any article upon or near such body, without an order from the health officer, president of the board of health, or commissioner of health, shall, upon conviction, be adjudged guilty of a misdemeanor.

Section 2.[2] Whenever a health officer of any city, incorporated village, or town, appointed by the board of health thereof, as provided in Chapter 270, Laws 1885, has notice that there has been found, or is lying, within the jurisdiction of the board of health by which he is appointed, the dead body of a person who is supposed to have come to his death by violence, he shall forthwith repair to the place where such body lies and take charge of the same; and if on view thereof and personal inquiry into the cause and manner of the death, he deems a further examination necessary, he shall, upon being thereto authorized in writing by the president of the board of health of the city, incorporated village, or town where such body lies, in the presence of two or more discreet persons, whose attendance he may compel by subpœna if necessary, make an autopsy, and then and there reduce to writing every fact and circumstance tending to show the condition of the body, and cause and manner of death, together with the names and addresses of said witnesses, which record he shall subscribe. Before mak-

[1] This section consists of two sections of the present law.
[2] Modified Massachusetts Statute.

ing such autopsy, he shall call the attention of said witnesses to the position and appearance of the body.

Section 3.[1] If upon such view, personal inquiry, or autopsy, he shall be of opinion that the death was caused by violence, he shall at once notify one of the coroners of the city or county within which such body was found, and shall file a duly attested copy of the record of his autopsy in the office of said coroner. The coroner shall thereupon hold an inquest, which shall consist of the testimony of the health officer, and that of any other witnesses that the coroner may find necessary. Said inquest may be private, in which case any or all persons other than those required to be present by the provisions of this chapter, may be excluded from the place where the same is held, and said coroner may also direct the witnesses to be kept separate, so that they cannot converse with each other until they have been examined. The district attorney, or some person designated by him, may attend the inquest and may examine all witnesses. An inquest shall be held in all cases of death by accident upon any railroad, and the district attorney and the attorney-general may direct an inquest to be held in the case of any other casualty from which the death of any person results, if in his opinion such inquest is necessary or expedient.

Section 4.[2] The coroner shall have power to issue subpœnas for witnesses, returnable either forthwith or at such time and place as he shall appoint therein, and it shall be the duty of the coroner to give due notice of the time and place of the inquest to the health officer of the city, village, or town where the body was found, and it shall be the duty of said health officer to attend said inquest.

Section 5.[3] The coroner shall, after hearing the testimony, draw up and sign a report in which he shall find and certify when, where, and by what means the person deceased came to his death, his name, if known, and all material circumstances attending his death; and if it appears that his death resulted wholly or in part from the unlawful act of any person, he shall further state, if known to him, the name of such person, and if any person whose unlawful act contributed to such death, which report shall be returned by him to the next criminal court of record that shall be held in the county.

Section 6.[4] From and after the passage of this act no person shall be eligible to the office of coroner who is not a qualified lawyer.

Section 7.[5] Any justice of the peace, in each of the several towns and cities of the State, is hereby authorized and empowered, in case the attendance of a coroner cannot be procured within twelve hours after the discovery of a dead body, upon which an inquest is now by law required to be held, to hold an inquest thereon, in the same manner and with the like force and effect as coroners.

The Chinese Bone-setter.—A Western paper thus describes the method of treating a fracture employed by a Chinese doctor in that part of the country: "In setting a fractured limb he makes no effort to bring the bones into apposition, but simply takes a lot of red clay and envelops the limb with it. Then he takes some strips of bamboo and inserts them into the clay. Bandages are wrapped around those strips, and in the outer bandage he places the head of a live chicken. After he has secured this bandage he cuts the head off the fowl, allowing the blood to flow and penetrate the fracture. He then takes the chicken's head from beneath the bandage and covers the exterior with a thick coating of glue. The reason given for applying the chicken's head is that it nourishes the broken or fractured limb, and is 'heap good medicine.'"

[1] Modified Massachusetts Statute.
[2] Modified New York Statute.
[3] Modified Massachusetts Statute.
[4] New Section.
[5] Present New York Statute.

ON ELONGATION OF THE LIGAMENTUM PATELLÆ AS A FACTOR IN THE PRODUCTION OF CERTAIN KNEE TROUBLES AND DIFFICULTIES OF LOCOMOTION.

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In the year 1873 a man of about twenty-five years applied at the New York Orthopedic Dispensary, complaining of considerable difficulty of locomotion, and especially of great difficulty when going up and down stairs. The patient was supposed, by the physician who referred the patient to the dispensary, to have an insidious form of paralysis.

Various tests and a careful examination proved that there was no paralysis present. The patient then said his knees were very weak, and an examination of these joints showed a very peculiar state of affairs. The patellæ, when the patient was in a sitting position with the knees flexed just beyond 90°, were drawn above the condyles of the femur, and were lying in a plane almost horizontal with the long axis of the femur. The ligamentum patellæ on either side measured three and one-half inches long, and the altered joint outline was characteristic of these peculiar conditions. The patient stated that he had to walk very carefully, or he would, upon the slightest lateral jar, dislocate one of his knee-caps outward, and fall suddenly to the ground. There was a slight knock-knee on either side, and there was present at the intercondyloid notch a very perceptible tumor—an apparent exostosis—which occupied the position at which the patellæ would normally rest.

Several attempts were made to relieve the condition by the use of apparatus. He finally obtained some comfort and a little relief by using a silk elastic knee-cap, with a lateral pad crescentic in shape and made of rubber, which prevented the outward dislocation of the patella. The patient was lost sight of. He knew no cause for his trouble.

This case made an impression upon me, and a photograph was taken at the time, but it has become lost or mislaid in the years that have elapsed. It was not until a later period, when an opportunity occurred to watch the progress of a similar condition, that this case became of value.

In 1884 I was called by Dr. Janvrin to see a young lad, of fourteen years, who had hip-joint disease. The usual traction apparatus was applied, and, at the end of two years, the hip trouble was entirely removed. About this time, however, the patient began to grow very rapidly and to show signs of a progressive knock-knee. The member (right) affected with hip joint disease was quite straight, but the opposite side showed a very considerable genu valgum.

An examination of the ligamentum patellæ showed that it was three and one-quarter inches long on the left side, on the opposite side it was three inches long. The evident upward displacement of the patellæ on either side was marked during flexion of the knee at right angles. There was a distinct tumor in the intercondyloid notch on either side—more marked on the left; and the patient moved up and down stairs with an awkward gait, and fell at times without apparent cause. During his first summer in the country, after the hip disease was cured, he fell and dislocated his right patella. This was reduced by the family physician. The following year, he dislocated the left patella. In each instance the fall occurred while the patient was walking on an irregular surface.

The dislocation of the left patella proved a serious affair. The surgeon in attendance failed to reduce it, and, when the patient returned to the city, all attempts to reduce it seemed useless. When replaced, the bone immediately slipped back into its old position. At a

consultation, at which the late Dr. H. B. Sands, Dr. Janvrin, and myself were present, it was decided to make no further attempt at reduction, for the reason that the ntercondyloid tumor and the elongated ligamentum patellæ would prevent the patella from moving in its true longitudinal plane. For the same reason, it was decided not to perform Macewen's operation, though the knock-knee was very considerable. Dr. Sands considered all these of sufficient importance to contra-indicate surgical interference.

With the use of my knock-knee apparatus the genu valgum was much reduced, and the patient now has a slight knock-knee—a dislocated patella on the left side, and a very serviceable knee on the right side. His left ligamentum patellæ is still three and one-fourth inches long; his right, three inches long. He can place his left knee in full extension, with the quadriceps extensor femoris acting upon the dislocated patella, which moves back and forth above, and to the outside of the outer condyle of the femur. When sitting with knee flexed, patient abducts and rotates thigh outward to secure the quadriceps action upon the patella. He flexes the knee by a semi-rotating movement. The tibia is rotated permanently outward, so that the tubercle of the tibia is fully one inch to the outside of its normal position. Even if the patella was in its normal position, its line of movement, taking the insertion of the ligamentum patellæ as a guide, would be directly through the outer condyle.

By careful treatment, and, especially, by avoiding traumatism, and by the use of a firm conventional leg-brace, which gives lateral support and prevents the outward rotating movement of the tibia upon the femur, the patient now walks from ten to fifteen miles a day.

I next saw a lady, Mrs. E——, aged about thirty-five years. She came to me, unable to walk except with great difficulty, and always with danger of falling. The least irregularity of the pavement would cause a fall. She had never dislocated her patellæ. There was slight knock-knee on either side. The ligamentum patellæ on either side measured three inches, and the patellæ occupied the position indicated in the accompanying photograph of Maggie M—— This patient had great difficulty in going up or down stairs, and the disability was almost identical with that produced by a transverse fracture of the patella with a long ligamentous union. Light lateral "leg braces," preventing lateral movement at the knee, and arresting the rotating movement of the tibia during flexion, gave this lady almost complete relief. She could walk with great comfort, and without any fear of falling.

The following history (condensed) is taken from the books of the New York Orthopedic Dispensary and Hospital:

Maggie M——, aged thirteen, admitted December 2, 1886. Two years ago fell on an orange peel; up to that time seemed all right. Since then, falls easily and frequently. When she first fell, dislocated left knee-cap, which was reduced by a woman who saw the child fall. Right patella dislocated about two months ago by a similar accident. After each fall, the knee swelled, and there was some pain, which gradually disappeared. Previous treatment "knee-cap," which did no good. Both limbs measure the same in length and circumference, being about normal. No knock-knee, very slight lateral mobility at knee-joint. Patellæ, when knees are at rest in full extension, lie above condyles and look obliquely upward and outward. Patellæ freely movable, and, when relieved of muscular action, they can easily be brought down to normal position. Disability in walking, etc., exactly like that produced by fracture of the patella with long ligamentous union. There is an evident exostosis at sulcus between condyles of femur. Length of left ligamentum patellæ two and three-quarter inches; right, two and five-eighths. The exact condition and relation of the parts is shown in the accompanying photographs, the tubercle of the tibia and the patella on either side being outlined by a dark line made before the photograph was taken.

The treatment consisted in the use of leg-braces limiting the lateral and rotating movements of the knee. The patient obtained some relief, but was lost sight of after a few months.

In the case of Miss X——, whose knees had been for a long time immobilized in plaster of Paris dressings, with a consequent fibrous anchylosis, the patellar ligament was stretched by the force required to break up the sub-patellar adhesions The right ligamentum patellæ is now two and three-quarter inches long; the left two and one-half inches long. An expressive disability exists in this case, occasioned partly by the reduced quadriceps power in knee use, and partly by a disagreeable "click," which occurs when the patella, especially on the right side, slides into its supra-condyloid position.

Several cases of elongated ligamentum patellæ have come under my observation since. I will briefly relate two:

A young man, Mr. W——, consulted me because he

had great difficulty in keeping up his part in playing lawn tennis. His knees, as he expressed it, "gave out very quickly." His patellar ligaments were nearly three inches long, and the disability was easily explained. He had considerable pain after prolonged use of his knees. Heat and swelling were sometimes present. He wore knee-caps without relief. He declined to submit to an operation which had for its object a shortening of the elongated ligament. He would not wear apparatus, and so long as he does not use his knees too much, he is now comparatively comfortable, though he has occasional attacks of pain and swelling after over-exertion.

A lady, Mrs. V——, well and strong, quite muscular, and, as she says, "never sick," found difficulty in going up and down stairs. In this case, the elongation of the patellar ligaments was very marked. The cause being explained, and the remedies proposed being rejected, nothing was done, though the patient's trouble seems to be increasing rather than otherwise.

I might relate other interesting cases where there was knee trouble due to the lengthened anterior patellar ligament. In some of them there was heat, pain, and swelling due to over-strain, but no true joint inflammation. In others a sense of weakness and debility. In others a tendency to dislocation of the patella outward. In all, however, there was a greater or lesser degree of disability under severe, or in some cases ordinary, use of the joint. It was especially noted where much strain was brought upon the articulation in the flexed position.

I have not succeeded in persuading any of my patients to have a section of the ligament removed. The operation seems both feasible and justifiable. Dr. Sands, in the case reported, declined, as before stated, to perform this operation, principally because of the apparent exostosis at the point where the patella glides between the condyles. This exostosis has existed in almost all my cases, and its cause is very obscure. It would seem to be a hypertrophy due to the lack of the normal pressure of the patella, which in its acquired position does not rest in the intercondyloid space.

I have measured many normal anterior ligaments of the knee since these cases came under my observation. Their normal length varies from about one-half inch in children to two inches in adult life. These measurements were made from the apex of the tubercle of the tibia to the lower edge of the patella, with the quadriceps in full contraction, with the knee bent at ninety degrees, thus making the ligament taut. In some adults the ligament is only a little over one inch long. In others, it is about one and one-half, and in a few tall persons it is about two inches long, when measured as above. Anatomists vary very much as to the length of this structure. For example, Gray gives it as 3 inches; Ellis at 2 inches; Morris at 2½ inches on its inner border, 3½ on its outer border. But these measurements represent the ligament deprived of all contiguous tissue, and are made upon the cadaver. The ligament extends, for example, below the apex of the tubercle. Clinically, the measurements above are correct, both as applied to the normal and elongated patellar ligament, the points of measurement being the same in either case.

Shortening of the ligamentum patellæ is also a condition that I have seen quite often. It has always occurred as the result of a disused or paralyzed quadriceps extensor femoris muscle. In some cases, where the anterior thigh muscles are paralyzed, as in polio-myelitis anterior, the patella will rest against the tibia, and no trace of the ligament can be felt. The same may be said of certain cases of anchylosis of the knee, where the patella has been late in attaching itself to the subjacent bone. The ligament shortens under the influence of gravity, and a disused or paralyzed quadriceps, and it becomes very short after a time.

My experience proves that this condition, of an elongated ligamentum patellæ, is neither rare nor unique. As to its cause, I can find no satisfactory clew, except, of course, in cases like Miss X——'s, when force was used to dislodge the adherent patellæ. It is altogether likely that, in most cases, the condition is either congenital or acquired early in life; and the fact that the majority of my cases were women or children, the former being ladies of leisure and refinement, without the history of an injury, would seem to eliminate traumatism as a cause.

A peculiar feature of these interesting cases is the intercondylosed growth which, in Dr. Janvrin's case, gradually assumed the character of a considerable osseous tumor. As a mechanical factor, it prevents the normal movement of the patella over the trochlea, and it is a persistent barrier to a perfect restoration of the parts. In this case, three separate operative procedures were indicated to restore the parts to anything like a normal relation: 1, Macewen's supra-condyloid operation to remove the knock-knee; 2, to shorten the ligamentum patellæ; and 3, to remove the intercondyloid tumor. The result of the conservative treatment advised by Dr. Sands would seem to sustain his position that this complex operation was uncalled for.

My conclusions may be briefly stated:

1. Elongation of the ligamentum patellæ may produce weak, painful, and apparently inflamed knee-joints.

2. Many obscure knee-joint troubles, as well as impaired or difficult locomotion, may be explained by this condition.

3. Elongation of the ligamentum patellæ may produce a disability very like that produced by ligamentous union after transverse fracture of the patella.

And finally, elongation of the ligamentum patellæ may be, and very frequently is, produced by forcible breaking up a fibrous anchylosis of the knee-joint.

OPERATIVE TREATMENT OF DETACHMENT OF THE RETINA BY SCHÖLER'S METHOD; WITH A REPORT OF FIVE CASES.[1]

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THE views of Schöler[2] are based upon the modern theory of the causation or origin of detachment of the retina, which was first clearly and anatomically demonstrated by Leber and Nordenson in 1887. Heinrich Mueller in 1856 proved that the vitreous could only be detached from the retina, and the retina from the choroid, by shrinking or contraction in the connective-tissue portion of the vitreous. In 1867 Iwanoff demonstrated on pathological specimens that disease of the vitreous led to detachment of the vitreous, and that the latter preceded the detachment of the retina as an independent disease. In 1863, Von Graefe first called attention to the significance of perforation or laceration of the retina in its relation to detachment of the retina. In 1870, von Wecker stated that detachment of the retina was generally, if not always, preceded by both detachment of the vitreous and laceration of the retina. Finally, Nordenson in his elaborate work clearly demonstrated the process known as shrinking or contraction of the vitreous, followed this out to its natural conclusion, and proved that, as the process of detachment of the vitreous extended to the equatorial region, the retina, being here more intimately united with the vitreous, became torn, and through this rent the fluid which collected between the detached vitreous and the retina percolated, and thus gave rise to detachment of the retina itself. This view of the origin of detachment of the retina is now generally accepted.

It is not known who first suggested the injection of an irritating fluid into the sac of the detached retina, though Fano refers to it in his "Traité des Pratiques des Maladies des Yeux," p. 417, 1866. Galezowski tried it in 1871, but without any success.

In order that a detachment of the retina may be cured, Schöler lays down the following propositions:

1. It is necessary to produce such an adhesive retinitis as will antagonize the effects of a contracting or shrinking vitreous.

2. This irritative inflammation must be of moderate intensity, in order that the functions of the retina may not be injured.

3. If by this inflammation an absorption of the fluid between retina and choroid is promoted, it is desirable that the means (fluid) employed to develop it should be, to a certain extent, hygroscopic in character.

4. The means (fluid) employed should not injure the already diseased and degenerated vitreous, but should rather tend to act favorably also on the original choroidal disease.

5. The fluid employed must be antiseptic, and must be injected into the vitreous in front of the space between the latter and the retina, where it should tend to tear the shrinking or contracting bands in the vitreous, without causing any further detachment. In recent cases, by its hygroscopic properties it should act on the fluid between the retina and the choroid, through the laceration of the retina itself.

In the course of his investigations, Schöler made experiments on animals with tincture of iodine, biniodide of mercury, Lugol's solution, sublimate solutions, and glycerole of iodine solutions. Some of these were too weak, causing changes in the retina indeed, but which were transient and inconstant. Some of them were too strong, like the glycerole of iodine. The tincture of iodine gave constant results. After an injection of six drops of the latter, changes appeared during the next six or eight days, such as chorio-retinitis with diffuse cloudiness of the pre-retinal layer of the vitreous, which subsequently subsided. Schöler first used the tincture of iodine in the human eye, on November 22, 1888, in a woman in whose eye the detachment occupied about two-thirds of the retina. In eight days there was a marked improvement, and the patient was able to read. In fourteen days there was a relapse, with two concentric annular detachments. A second injection was made into the vitreous, which was followed by pain, conjunctival congestion, retinitis, and cloudiness of the vitreous. A recession of the chorio-retinitis took place slowly, but eventually the retina became reattached.

Schöler states that the tincture of iodine injected into a space filled with serum and albumin, is diluted and extends for some distance over the retina and between it and the vitreous. The possible bad effects of the injection of tincture of iodine into the vitreous depend: 1, On the toxic properties of the drug; 2, on the possible formation of thrombi in the veins; and 3, on the direct extension of the drug through the lymph-spaces of the eye into the cerebro-spinal fluid. The first danger, Schöler considers, is met by the well-known fact that large quantities of the drug are frequently injected into the thyroid gland in goitre, without producing any bad results. The danger of the formation of thrombi is offset by the fact that in aneurisms the aim is to form a thrombus by the injection. The danger of the entrance of the drug into the cerebro-spinal fluid is probably offset by the fact that in spina bifida large quantities of the drug are frequently injected into the spinal canal without dangerous results.

The views of the profession as to the value of Schöler's method vary greatly. Schweigger is opposed to it except in cases from which nothing more can ever be expected.[1] Becker quotes Kühne's statement that in frogs the retinal function returns as soon as the cone is again in contact with the pigmentary layer, and suggests that the same should occur in recent detachments in man if we can bring the cones in place. In old detachments, the rods and cones are destroyed, and of course there is then no hope of restoration of vision by any means. Abadie believes in the efficacy of the method and thinks it should be tried.[2] He reports nine cases, with success in some of them He never injects more than three drops of the tincture of iodine. If the dose is too large the reaction is very great, and is followed by rapid disorganization of the media of the eye. He has a knife made for the purpose, shaped like a Graefe cataract knife but with a stronger blade, and with the back hollowed into a shallow gutter, and the shank and handle are a Pravaz syringe. The injection is thus made without withdrawing the knife. The amount to be injected is regulated by the extent of the detachment. If the detachment is extensive, he makes two injections on opposite sides of the eye, and the second injection, he claims, almost always brings success.

Panas reports good results, but is in doubt whether they are due to the injection or to the simple puncture.[3]

[1] Read before the American Ophthalmological Society, at its annual meeting in Washington, D.C., September 22, 1891.

[2] Zur Operativen Behandlung und Heilung der Netzhautablösung. Berlin, 1889.

[1] Centralbl. für Prakt., p. 181, August, 1889.

[2] Archives d'Ophthalmie, p. 461, 1889.

[3] Idem, p. 257, 1890.

Gelpke reports a case which terminated fatally. The patient was a man, aged sixty-six, who had a detachment of unknown origin, and involving about three-fourths of the retina. He had perception of light and the tension was — 3. The antiseptic precautions taken at the operation were painfully minute. Three drops of tincture of iodine were injected into the vitreous, which set up infectious purulent choroiditis, which in its turn induced acute meningitis, ending in death on the sixth day.[1]

For the performance of his operation Schöler had a special instrument constructed, which he describes as follows: Upon the end of a Pravaz syringe is fastened a gold-plated platinum tube, shaped like a strabismus hook, which ends in a small knife, curved like a hook. The length of the gold-plated platinum tube is 4 ctm., and its thickness 2 mm. The length of the little knife is 2½ mm., and its width 1½ mm. At the junction of the knife with the tube there are two small openings, 0.3 to 0.5 mm. in diameter, which are prolonged on each side of the blade into a short, shallow gutter, to conduct the fluid from the syringe into the eye.

All Schöler's experiments on animals and man tend to prove that there are substances of differing medical properties, which may be injected into the vitreous with safety for the purpose of bringing about a cure of detachment of the retina. As a rule, the earlier the fluid is injected after the detachment is recognized, the better; for the less contraction has taken place in the vitreous, the better is the prognosis. The most favorable place for the injection to be made is the point at which the retinal detachment began, in order to establish as near as possible to the point of traction of the contracting vitreous bands the mechanical antagonizing factor set up in the retina by the irritative inflammatory process and its consequences.

Schöler considers that the two most favorable factors for the success of the operation are: 1, A slight sagging of the detached retina, showing the presence of a small amount of fluid; and 2, the recent occurrence of the detachment. On the contrary, the unfavorable factors are: 1, Simultaneous disease of the vitreous with flocculent opacity and fluidity; 2, the existence of excessive myopia; 3, a wide extension of the detached part of the retina; 4, co-existence of more or less advanced disease of the choroid.

After the operation a bandage is applied, merely for the purpose of aiding in closure of the external wound. The patient should remain on his back in bed for at least a week, and sometimes for two weeks.

Schöler draws the following conclusions:

1. He considers that his experiments give the first demonstration of the fact that different medicated fluids may be injected free into the vitreous, in front of the retina, without necessarily endangering the eye, and may induce the development of a healing process.

2. The injection of tincture of iodine into the vitreous through the retina may induce the rupture of abnormal adhesions between the vitreous and the retina, and may set up a plastic retinitis, which, together with the hygroscopic absorbent and disinfecting properties of the iodine, may bring about a cure of the detachment.

3. The process of development of the cure, and the clinical progress of the case, with a slowly increasing visual acuity, widening of the visual field, and diminution of the night blindness, justify the assumption that these curative processes are lasting. Of course the ultimate prognosis must be based upon the lapse of time, that is, the duration of the improvement.

CASE I.—Thomas B——, aged twenty-eight; first seen September 23, 1889. In March, 1888, he had received a violent blow on the right eye, which caused total blindness for a few minutes, and great pain. The vision then slowly returned, and in the course of about ten days all signs of visual disturbance had disappeared. Three months before I saw him, while ill in bed, he read for hours at a time while lying on his back by insufficient light. After some weeks he began to have symptoms of asthenopia, and awoke one morning with a defect of vision in the right eye which annoyed and startled him, because he could not see the upper portions of any object. An examination revealed the following condition:

Right eye: V.=$\frac{15}{20}$ eccentrically and unimproved; cornea aqueous and lens clear; vitreous fluid and containing numerous floating opacities, but no distinct membrane; iris fluttering; detachment of the retina downward and inward, and apparently recent. Left eye normal in every respect.

The patient was immediately placed on his back in bed, and was not allowed to rise except to answer the calls of nature. The eye was kept under the influence of atropia, and pilocarpine was administered hypodermically. He did not bear the pilocarpine well, though its physiological effects manifested themselves promptly, and it was discontinued on the fourth day. In its place small doses of potassium iodide, largely diluted, were administered. This treatment was continued for four weeks, and an ophthalmoscopic examination was made nearly every day. During this period the vitreous became clearer and the floating opacities diminished, but there was no visible change in the detachment of the retina, and none in the visual field. Schöler's operation was then suggested to him, and he was informed of the possible dangers of the step, as well as of the advantages claimed for it, and he decided to have it done. Five weeks from the date of his first visit the injection was made, the instrument used being similar to that devised by Schöler. The eye was anæsthetized by cocaine, having previously been rendered thoroughly aseptic, and the puncture was made between the inferior and internal recti, and well in front of the equatorial region. The operation was done under ophthalmoscopic examination and without fixation of the eyeball, and as soon as the point of the knife-needle was seen in the vitreous three drops of tincture of iodine were injected very slowly. The vitreous became cloudy very rapidly and the intra-ocular tension rose at once. A bandage was then applied, and the patient at once put to bed. In the course of a few minutes the patient complained of a boring pain, which during the next hour increased in severity, but was never unbearable, and disappeared during the night. The bandage was removed the next morning, and slight conjunctival injection was found. The wound through the conjunctiva had already healed. The vitreous was still cloudy with several reddish brown flocculent opacities floating about. Whether these were fresh blood-clots, the result of the operation, or merely flocculi colored by the iodine, could not be settled. The condition of the detachment could not be determined. On the second day the vitreous was much clearer, and the detachment could be made out, apparently smaller and withdrawn toward the periphery. No pain and no signs of any serious intra-ocular inflammation. On the third day the vitreous was still clearer, and a distinct yellowish-white band could be made out, running from a point at the extreme periphery of the infero-nasal quadrant toward the centre of the vitreous. Only one brownish red floating opacity could be discovered. The patient was kept in bed for another day as a precautionary measure. On the fourth day the patient was allowed to rise, and a test of the vision and of the visual field was made. Vision was reduced to $\frac{10}{100}$ and the visual field was practically unchanged, perhaps a trifle widened. The signs of chorio-retinitis subsided, and as there had been no material improvement in the field, and as the vision was slightly worse than before the operation, the patient was discharged with directions to report in a week.

In this case the signs of inflammatory reaction were surprisingly slight and very transient in duration. The patient did not report until nearly two weeks had elapsed; but he had not attempted to use his eyes for any purpose, and the operated eye had given him no trouble, and

[1] Centralbl. für Prakt., p. 260, August, 1889.

he claimed that the vision had improved. An examination showed a decided change in the fundus. The vitreous was very much clearer and there were no floating opacities. The yellowish-white band of tissue running from the point of puncture toward the centre was much smaller and more condensed, and more sharply outlined. The detachment was decidedly less in extent, and there was a quite extensive patch of plastic chorio-retinitis at the extreme periphery of the fundus, around the region originally occupied by the detachment. Vision had risen to $\frac{18}{200}$, and there was a slight widening of the visual field.

The reaction following the first injection had been so slight, and the vision had so soon returned to the degree existing at the time of the operation, that I suggested to the patient that he have a second injection made, but this he declined, and I was not enthusiastic enough in the matter to urge it. The point that impressed me most in the progress of this case was the exceedingly slight reaction following the injection. The existence of the band of fibrous tissue running from the point of puncture into the vitreous must be regarded as of grave significance. As the contracting process goes on in the eye, the presence of this band of tissue will tend inevitably to detach the vitreous from the retina, or the latter from the choroid, at a point opposite to the site of the original detachment, and the case may thus end in total detachment of the retina. It seems, therefore, a fair statement to say that the condition of the eye of this patient has not only not been improved by the operation, but has in all probability been made worse. This is, of course, making a forecast of the future, and thus far no such unfortunate change has occurred. The patient has been repeatedly examined at intervals of a few months, and the vision and field of vision have remained practically unchanged.

Case II.—Miss Margaret M——, aged thirty-one; first seen April 24, 1890. Had always had very strong eyes, and had used them constantly for all kinds of fine embroidery. Never noticed anything to complain of until about two months before I saw her, when she observed a steadily increasing cloudiness of the vision of the right eye. This grew worse, until now she can only see the lower parts of objects with the right eye. An examination revealed the following condition of affairs: Right eye: $\frac{18}{200}$, unimproved; cornea aqueous and lens clear; hyalitis with delicate cobweb-membrane running across the vitreous and attached to the optic disk; numerous floating opacities; retina detached downward and outward. Left eye: $\frac{18}{18}$, Hm. + D. 1; media and fundus normal.

Owing to the presence of this delicate cobweb-membrane, I decided to divide it before taking any steps to treat the detachment of the retina, and this was done in the way before described in two articles previously published on the subject, with the narrow, double-edged needle. The eye was then bandaged and the patient put to bed, atropine having been previously instilled. The next morning the bandage was removed, and the cobweb-membrane had retracted in both directions. The patient was kept in bed for three weeks, and an injection of pilocarpine hydrochlorate was given hypodermically every other day. She bore the drug very well, and the diaphoresis was complete, but at the end of the third week her health, never very good, began to fail, and the treatment was discontinued and the patient allowed to rise. No change had taken place in the vision for near objects, though distant vision had risen to $\frac{18}{16}$ +, but the defect in the visual field remained the same. She then decided to have Schöler's operation done, though I did not urge it. Eight days later the right eye was cocainized, and under the strictest antiseptic precautions and by ophthalmoscopic examination, a puncture was made in the inferotemporal quadrant, between the inferior and external recti muscles, the point of the needle being carried well into the centre of the vitreous, and four drops of tincture of iodine slowly injected. Sharp pain was complained of at once, and a solution of cocaine and atropine was dropped in. Before the bandage was applied an ophthalmoscopic examination showed a general brownish haze through the vitreous. The pain subsided after a few hours, in spite of the increased tension, and the patient passed a good night. The next morning there was considerable conjunctival injection and the tension was still above normal. The vitreous was so cloudy that only a very faint red reflex could be obtained with the ophthalmoscope. The atropia was discontinued and cocaine used in its place, and the bandage was left off permanently. On the second day there was a well marked ciliary injection, some chemosis of the conjunctiva, and an invisible fundus. Hot applications were applied constantly, and as the patient complained of continuous pain, two leeches to the temple. On the third day the symptoms of intra-ocular inflammation were decidedly less marked and the pain had almost disappeared, but it was not until the fifth or sixth day that the infiltration of the vitreous began to clear up. From this time on the symptoms rapidly subsided, and on the twelfth day all ciliary and conjunctival injection had disappeared, the chemosis was gone, there was no pain, and a tolerably clear vitreous. There was no trace of the previous cobweb, but there was a broad dense band of tissue running across the vitreous, from a point downward and outward, the site of the two punctures, in a direction upward and inward, and decidedly backward, partially concealing the optic disk from view. With a widely dilated pupil, only a small detachment of the retina could be discerned at the extreme periphery. A test of the vision showed a decided diminution to $\frac{3}{200}$ eccentrically. Examination of the field of vision showed a decided improvement peripherically, but there was an irregular broad defect extending nearly across the centre of the field.

The condition of this patient had therefore been made decidedly worse by the operation, and at one time there was a fear that a destructive panophthalmitis had been set up.

One week later the vitreous was very much clearer, and the fibrous band across the vitreous seemed narrower. A somewhat extensive exudative or plastic chorio-retinitis was seen downward and outward, and the detachment of the retina had changed its position and its shape, and was now more directly downward. It, however, was apparently of about the same extent as before, and the defect in the visual field was relatively of the same size.

Case III.—Mr. W. A——, aged sixty, first seen May 11, 1890. Has been myopic all his life and has worn glasses for thirty-five years. Has persistently abused his eyes for many years. In March, 1890, he suddenly noticed a small black spot downward and inward in front of the right eye, which has steadily increased in size, until now it covers nearly half of the field of vision. Vision is now eccentric with this eye, and there is a constant dull pain in the eye, and great photophobia. An examination showed the following:

Right eye: V. = $\frac{18}{100}$ eccentrically and unimproved; cornea and aqueous clear; iris fluttering; peripheral opacities in both lenses; floating opacities in vitreous; patches of diffuse chorio retinal degeneration; detachment of nearly the entire upper half of the retina, and the remaining portion blunted as to the perception of form and color.

Left eye: V. = $\frac{18}{100}$ —: with sph. — D. 2 ⌒ cyl. — D. 2.50 ax. 180° = $\frac{18}{18}$ +; floating opacities in the vitreous, and patches of diffuse chorio retinal degeneration; field for form unrestricted; no detachment.

This patient was a severe sufferer from chronic rheumatism, and could not be subjected to the long confinement in bed. He was, therefore, put on a tonic treatment together with small daily doses of pilocarpine hypodermically. The physiological properties of the drug appeared very promptly and he bore it very well, but at the end of the second week he began to lose his appetite and became very restless, and it was stopped. An examination then made showed a slight improvement of the vision in the

right eye, with a sph. — D. 2 to $\frac{18}{10}$ + ; but there was no change in the defect of the visual field, and none apparently in the detachment of the retina. He was then told that all had been done for him except an operation, which was described to him in detail. He was told that his case was a bad one, that the left eye was in an unsatisfactory condition, and that the operation might not only destroy what sight he had in the right eye, but might also endanger the left eye. On the other hand, he was told that the retina in the right eye would almost certainly become entirely detached in time, and that the operation might prevent this. After deliberation he decided to have the operation performed. This was done while in the sitting posture, with the usual antiseptic precautions, and under ophthalmoscopic examination. The puncture was made in the supero-temporal quadrant of the eyeball, just back of the ciliary region, between the superior and external recti muscles, and three drops of tincture of iodine were slowly injected. The vitreous became of a brownish color at once, and before the bandage was applied was so cloudy that the fundus could not be seen. Little or no pain followed, but the tension increased. There was some pain during the night and the next morning, but nothing of a severe character. When the bandage was removed chemosis of the conjunctiva had already taken place, and a deep injection was rapidly developing. The pain became intense, the lids became swollen, and before the end of the day panophthalmitis was in full blast. This was combated by atropine, leeches to the temple, and hot bichloride fomentations, but the inflammatory process lasted more than a week before the symptoms began to subside. The disease ran the usual course and at the end of the fourth week the eye was in a quiescent condition, and could be carefully examined. The iris was decidedly atrophic and adherent to the lens-capsule. The opacities of the lens had increased and encroached on the field of the pupil. The vitreous was filled with bands of exudation, that were so dense that no view of any details of the fundus could be made out. The tension was decidedly below normal, and vision was reduced to recognizing the movements of the hand eccentrically.' Fortunately the severe inflammation through which the right eye had passed, had not as yet caused any positive defect in the left eye. There was no sympathetic irritation developed, and no ophthalmoscopic complication appeared in the left eye. But in the operated eye the vision had sunk from $\frac{18}{100}$ to distinguishing the movements of the hand eccentrically. The vitreous was filled with bands of fibrous tissue, which concealed all view of the fundus, and the natural inference is, that so far from the detachment of the retina having been diminished, it was probably increased by the results of the operation. It is certain that the condition of the patient was made decidedly worse by the operation.

Case IV.—Mr. M. H——, aged seventy-three, first seen September 30, 1890. Patient has always been myopic and has worn glasses for many years, but has never consciously abused his eyes and does not wear glasses in reading. He began to notice a failure of the vision of both eyes about a year ago, and about eight months ago it grew suddenly very much worse in the left eye. This was recognized at the time as due to a detachment of the retina, for which he went through the usual rest-cure, but without any benefit. When I examined him the conditions were as follows :

Right eye : V. = $\frac{18}{200}$, and with sph. — D. 3 = $\frac{18}{10}$; reads Jaeger No. 3 with sph. + D. 2.; peripheral opacities in the lens and floating opacities in the vitreous ; usual atrophic myopic fundus.

Left eye : V. = perception of light ; peripheral opacities in the lens ; detachment of the retina downward, inward, and outward.

In view of the patient's advanced age, the degree of myopia present, and the fact that the patient had been subjected to the rest-treatment on his back in bed for a period of nearly six weeks, together with the use of atropia and the internal administration of potassium iodide, without any benefit whatever, the case was regarded as a desperate one. Schöler's operation was proposed to him, together with its accompanying dangers, and he decided to have the attempt made. On October 2d the left eye was cocainized, and the puncture was made in the infero-temporal quadrant, just back of the ciliary region, and between the inferior and external recti muscles. Four drops of tincture of iodine were slowly thrown into the vitreous, which almost immediately caused a brownish turbidity and rendered everything in the fundus invisible with the ophthalmoscope. Quite a sharp pain was almost immediately complained of, which radiated from the eye back upon the temple and over the forehead. This increased until it soon became so violent that it was necessary to administer a hypodermic injection of morphine. The sharp pain soon passed away, leaving behind it a dull ache both in the eye and head. The next morning the bandage was removed and the eye examined. There was a very marked and general chemosis of the ocular conjunctiva, but not much injection. The tension was increased to + 2, and the fundus was entirely invisible. The objective signs of intra-ocular inflammation were more marked than is usual in an ordinary acute chorio-retinitis, but the application of leeches, atropia, and hot fomentations caused a gradual subsidence of the inflammation, and on the eleventh day I was enabled to obtain a view of the fundus. There was no change in the appearance of the lens, but the detachment of the retina had receded over more than half its extent, and seemed to be confined to the infero-nasal quadrant. There were some brownish flocculi floating in the vitreous, but no bands of new tissue were visible. Vision had improved to counting fingers at a distance of eight inches, and the field had widened. This patient, in spite of his years, made an excellent recovery, and was enabled four months later to read $\frac{10}{200}$ with the left eye. A portion of the retina in the infero nasal quadrant still remained detached, but downward and outward it had become reattached, and the signs of a plastic chorio retinitis were extremely well marked. The widening of the field which was noticed on the eleventh day still remained, and had even gained somewhat in extent. Unfortunately this improved condition of the fundus did not last. About the middle of December the vision became again more obscured, and an ophthalmoscopic examination showed that the detachment had again taken place, and was as extensive as at first. The chorio-retinitis had extended, and the degeneration had evidently advanced in part to the atrophic stage. The opacities of the lens had increased and extended well into the nucleus, and vision was reduced to recognizing the movements of the hand. The lens has since become entirely opaque, and the patient has the merest quantitative perception of light.

Case V.—Mr. B. W——, aged thirty-six, first seen December 28, 1890. Has always had good eyes and has used them steadily day and night. Several months ago he began to have foggy vision in the right eye, and a dull ache after long-continued reading. He has had a refractive error which turns out to be compound hypermetropic astigmatism. Soon after this he began to complain of the left eye also. Was examined by an oculist who told him that he had disease of the retina of both eyes, and that he must stop all work. When I examined his eyes I found the following condition :

Right eye ; $\frac{18}{100}$ + : with sph. + D. 1.75 ⌒ cyl. + D. 1 ax. 75° = $\frac{18}{60}$; cornea, aqueous, and lens clear ; organized membrane in the vitreous ; patches of old chorio-retinitis, and one or two of fresh exudation ; detachment of retina inward of moderate extent ; reads Jaeger No. 2 slowly with above sphero-cyl. glass.

Left eye ; $\frac{18}{100}$: with cyl. + D. 2.50 ax. 105° ⌒ sph. + D. 1 = $\frac{18}{60}$; reads Jaeger No. 3 with same combination ; cornea, aqueous, and lens clear ; quite extensive patches of chorio-retinitis, but no demonstrable detachment.

This patient was very anxious about his condition, and was willing to submit to any treatment that offered a chance of success. He was put on his back in a darkened room, with atropia in his eyes, and a bandage over the right eye for six hours daily. In addition pilocarpine was administered hypodermically daily for eight days. The physiological effects of the drug manifested themselves promptly, but without any bad result until the eighth day, when he had an attack of heart failure which nearly carried him off, and from which he did not entirely rally for nearly twenty-four hours. The administration of the drug was of course permanently stopped, but the rest of the treatment was persisted in for nearly two months. Not the slightest benefit resulted from these weary weeks in bed, and, after he had somewhat recuperated, Schöler's operation was suggested to him and immediately accepted. His vision in the right eye was still $\frac{1}{5}\frac{8}{0}$ with the compound cylinder, but he could no longer read Jaeger No. 2. On February 26th I punctured the eyeball on the nasal side, just below the inferior margin of the internal rectus muscle, and just back of the ciliary region, and injected slowly into the vitreous four drops of tincture of iodine. The vitreous became immediately very cloudy, and the tension rose to + 2, and he complained of some pain, not severe but very persistent in character, and located entirely in the eyeball. The next morning the bandage was removed and considerable conjunctival and ciliary injection was found. The tension was somewhat less than the day before, but the fundus was still invisible. There was no chemosis and no sign of any severe intraocular inflammation. The vitreous remained persistently cloudy for nearly three weeks. At the end of that time an ophthalmoscopic examination showed some flocculi in the vitreous, an increase in the density of the membrane which previously extended across the vitreous, and a decided increase in the detachment. His vision had sunk to $\frac{1}{2}\frac{0}{0}\frac{0}{0}$, and the field of vision was perceptibly narrower than before the operation. This patient was kept under observation for several months, and a gradual change was observed in the fundus. The nasal portion of the retina became slowly reattached, as if due directly to a contracting process going on in the plastic chorio-retinitis set up at the point of injection; but it seemed as if the detachment simply shifted its location from the inner to the inferior quadrant of the retina, as the defect in the visual field was upward. The membrane in the vitreous grew somewhat thinner, and the floating flocculi entirely disappeared. The most unfavorable symptom was a decided increase in the number and extent of the patches of chorio-retinitis, without doubt set up by the operation. At the last examination made the patient's vision was $\frac{1}{2}\frac{5}{0}\frac{5}{0}$, unimproved by any glasses, and the defect of the visual field occupied fully a quarter of its extent, and directly upward. This patient has not been seen since the latter part of February, but in a letter received from him in April, and dictated, he stated that his vision had decidedly failed, as he could only recognize the large letters of the test-types when held close to his eye, and then only in the lower part of the field of vision.

A brief *résumé* of the histories of these five cases may assist in drawing some conclusions.

The first case was a young man, with previous history of injury to one eye, in whom the detachment occupied about one-third of the fundus. The injection caused very little reaction, but the primary effect was a diminution of the existing visual acuity. Subsequently the vision improved and the field widened. Plastic chorio-retinitis causing adhesion of the retina to choroid was undoubtedly the cause of this, but the formation of additional fibrous bands in the vitreous will probably lead to a further increase of the detachment, and probably to permanent loss of vision.

The second case was a young woman, with hypermetropia and a perfectly normal fundus in one eye, but with a cobweb-membrane and a detachment of the retina in the other, occupying about one-third of the fundus. The injection caused a somewhat more violent reaction than in the first case, but soon subsided under active treatment. The effect of the operation was to make the vision decidedly worse, and caused no diminution of the detachment, but simply shifted it from one quadrant of the eye to another quadrant. Rather extensive plastic chorio-retinitis, and the formation of fibrous bands in the vitreous were decidedly bad results.

The third case was a gentleman, aged sixty, who had compound myopic astigmatism and a diseased choroid in both eyes, with detachment of the retina in one eye. The injection caused acute infectious panophthalmitis, which ended in nearly total destruction of vision in this eye, and an apparent increase in the extent of the detachment, though this could not with certainty be made out.

The fourth case was a gentleman, aged seventy-three, who had myopia and diffuse choroidal disease in both eyes, and a very extensive detachment in one eye. The injection caused an acute panophthalmitis of moderately severe type, which yielded to treatment in about two weeks. The primary effect was an improvement in the vision and a decided lessening in the extent of the detachment, more than half of the detached portion becoming reattached. But the ultimate effect was a recurrence of the detachment and a reduction of the vision to what it was before the operation was done, and subsequently an opacity of the lens.

The fifth case was a gentleman, aged thirty-six, with compound hypermetropic astigmatism and a diseased fundus in both eyes, and a small detachment of the retina in one eye. The injection caused only moderate reaction. The primary effect was an increase in the detachment and a further loss of vision, but subsequently the retina became reattached at the inner quadrant and detached below, and vision rose to $\frac{1}{2}\frac{5}{0}\frac{5}{0}$. Two months later his vision had again sunk to $\frac{1}{2}\frac{0}{0}\frac{0}{0}$, and the detachment of the retina had become more extensive.

THE BLOOD-CHANGES IN THE MALARIAL FEVERS.

By ARTHUR C. BRUSH, M.D.,

BROOKLYN, N. Y.

The presence of a specific organism in the blood of patients suffering from the malarial fevers has been clearly demonstrated by the researches of Laveran, Osler, Carter, Moore, and Prout; but the descriptions of these organisms as given by these writers have varied, and this variation, when viewed with the different clinical types which these fevers present, is suggestive that there is a connection between them, and that it is to this difference in the species of organism that the difference in type is due, and that the change in type which these fevers often present may be due to the subsequent development of a new species, and that under the name malarial we are really including several distinct but closely allied conditions. The different species of organisms, as a rule, occur together in the same case of the malarial fevers seen in this city, but cases occur in which one type alone exists or greatly predominates over the others.

I have been unable as yet to differentiate my cases clinically, for most of my histories are very imperfect, most of the cases having been seen only once or twice. The specimens were all obtained from cases in my clinic in the City Dispensary. The blood was obtained in the usual way from the finger, and either studied fresh or mounted in a saline solution, usually both methods being employed together.

I have been able to separate my cases into three groups: *a*, Those in which the non-pigmented intercorpuscular bodies alone existed; *b*, those containing the pigmented intercorpuscular bodies, flagellæ and crescents; and *c*, those in which both kinds existed together. This division is in accordance with the teachings of Osler, who in writing of the non-pigmented intercorpus-

cular bodies, says: "They are not an earlier stage of the pigmented bodies, but a distinct species;" and Prout found only this species in his cases. In my cases the first set was the least common, and I found but two.

CASE I.—J. G—— (August 20, 1891). Has had attacks of "malaria" for the past two years. Present attack commenced the day before yesterday, when she had a rigor followed by fever and sweating. Begins to feel unwell now. Spleen enlarged. Examination shows the red corpuscles to contain one or more oval hyaline bodies, with a few rod-shaped ones.

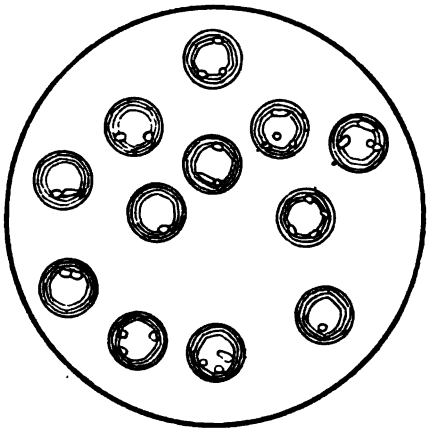

FIG. 1.

August 27th.—Patient has had a continued fever since last night, with a slight chill every day. There is some pain in the head, back, and limbs. Examination shows the oval bodies to be almost entirely replaced by rod-shaped ones, and vacuoles have developed in some of the cells. Large masses of protoplasm have appeared, containing large and small pigment grains.

CASE II.—F. M—— (August 6, 1891). She has had malarial fever every fall for many years. Present attack

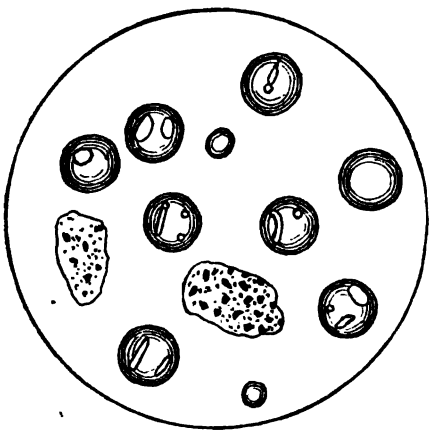

FIG. 2.

commenced six weeks ago. Since then she has had a continued fever, with irregular rigors. Patient is very anæmic and sallow. Spleen much enlarged; temperature, 101½° F. Neuralgic pains in the head and pains in the bones. The red corpuscles contain oval and rod-shaped hyaline bodies and vacuoles. The white blood-cells are increased to one in fifty, and are loaded with variously sized pigment grains. Very large and very small and nucleolated red corpuscles are also present.

It will be seen that both these cases are of the type of a continued fever, and that some of the blood-changes in the second point to an etiological relationship to leucocythæmia. Of the second set of cases, or those containing only the pigmented intercorpuscular bodies and the free forms found associated with them, I have found six cases; four of these were of the quotidian intermittent type and two of the remittent type.

CASE I.—C. T—— (October 10, 1891). Has had intermittent fever every fall for the past seven years. Present attack commenced yesterday, when he had a chill, fol-

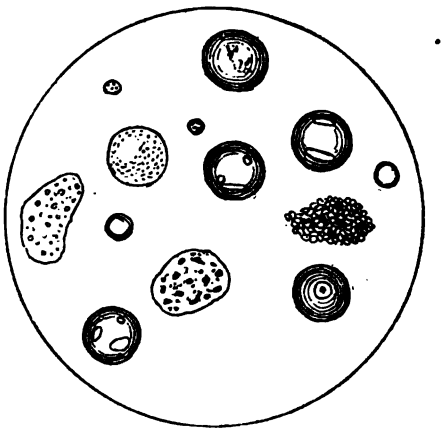

FIG. 3.

lowed by fever and sweating. Spleen enlarged. The red corpuscles contain pigmented bodies, and very small, round, opaque bodies lying in vacuoles, and there are also present a few rosetted and one flagellated body. The white corpuscles contain pigment.

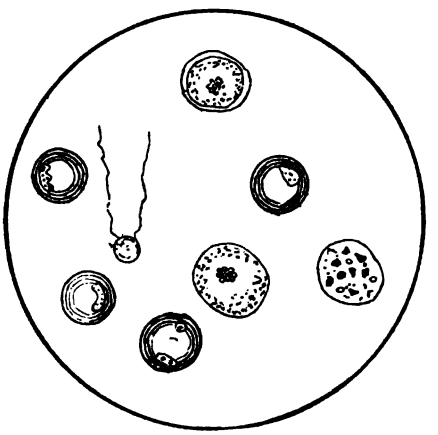

FIG. 4.

October 17th.—He has a paroxysm every day. The blood-changes are the same, except that a few crescents have appeared. The other cases of intermittent fever present the same blood-changes, the stage of development of the organisms corresponding to the length of time which had elapsed since the invasion.

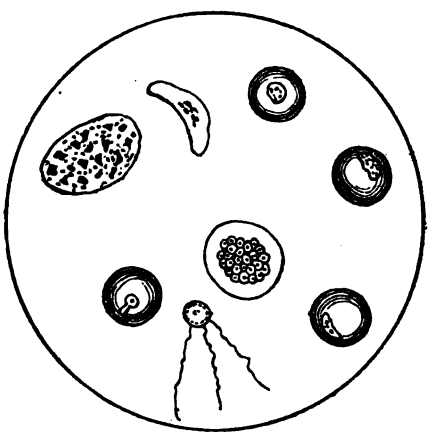

FIG. 5.

CASE II.—J. B—— (September 3, 1891). He has had intermittent fever every fall for the past six years. Every day he has had a chill, fever, and profuse sweating, accompanied by vomiting and pain in the head, back, and limbs. Blood-changes as in Fig. 5.

CASE III.—A. C—— (September 26, 1891). She had

intermittent fever in the West Indies six years ago. Present attack commenced three weeks ago. Every day she has a feeling of numbness of the entire body, followed by fever and sweating. The blood-changes are like the preceding, except the pigment; white corpuscles are more numerous, and there are also small, round, pigmented bodies free in the plasma.

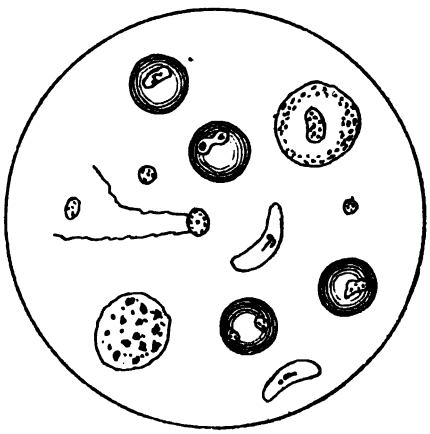

FIG. 6.

CASE IV.—J. M—— (August 18, 1891). Yesterday the patient had a severe chill, followed by fever and sweating. There were also pains in the head, back, and limbs, nausea, and vomiting. The red corpuscles contain pigmented bodies, and the white ones pigmented grains.

CASE V.—D. O'C—— (August 20, 1891). Present illness commenced two weeks ago. Slight rigor each day for the first few days. Patient feels very weak; complete anorexia. Temperature, 101½° F.; pulse, 120. Very sallow and anæmic. Spleen enlarged. Constant headache. Blood-changes like Fig. 6.

CASE VI.—T. R—— (August 27, 1891). Present sickness is of two weeks' duration, and is almost identical with the preceding, except that every afternoon he has intense neuralgic pains in all parts of his body. Blood-changes like that shown in Fig. 6.

The third set of cases were very common, and included all the forms of malarial poisoning which occur in dispensary practice.

The intermittent type occurred most frequently. I have recorded twenty-four cases. Of these eighteen were of the quotidian, five of the tertian, and one of the quartan (?). In these cases both species of organisms existed in the blood, and the stage of development varied with the duration of the cases; but the pigmented organisms, as a rule, greatly predominated over the others. The histories are the ordinary ones, and are like those of the intermittent type in the second set of cases.

The remittent cases were three in number, and of a more severe type. The blood-changes were well marked, and the proportion of the non-pigment organisms were larger than in the intermittent cases. All of these cases begin as intermittent ones, and the paroxysmal character continued through their entire course.

In the chronic and irregular cases the detection of these organisms in the blood of the patients is of the greatest value, as it enables us to make a positive diagnosis in otherwise obscure cases.

CASE I.—F. F—— (October 8, 1891). Has been unwell for the past eight years. Never had any malarial fever. Constant headache, frequent slight attacks of jaundice, loss of appetite, sometimes nausea and vomiting. Constant dull pains in his back and limbs. Spleen enlarged. Slight anæmia. Œdema of the feet at night.

CASE II.—B. McC—— (August 20, 1891). Every day she has attacks of vertigo and chilliness, but gives no other symptoms.

CASE III.—P. M—— (August 27, 1891). For the past two weeks the patient has felt very weak. Constant headache, with pain in the back and limbs. Every afternoon he feels much worse, and sometimes he has sensations of cold and heat. Slight jaundice. Spleen not enlarged.

CASE IV.—B. D——. For the past three years the patient has had periods during which she has almost every day had attacks of headache, dizziness, bright spots before the eyes, dyspnœa, palpitation, nausea, and occasional vomiting. Well-marked anæmia. Spleen not enlarged.

The conclusions which I have drawn from the above cases, then, are these: That the conditions described as malarial are due to the development of organisms in the blood. That the species of organism is not always the same in all cases, but that the different species often occur simultaneously. That it is due to this difference in species that the clinical difference in type is due. That a change in type is due to the subsequent development of a new species. That in reality we have two, if not more, distinct but often associated diseases, due to distinct but closely allied organisms.

TONSILLOTOMY AND ITS THERAPEUTIC EFFICACY.

BY J. M. W. KITCHEN, M.D.,

NEW YORK.

THERE is probably no other operation, in a small way, which the general practitioner hesitates so often to perform as that of extirpation of the faucial tonsils, though there are few operations in which the result is so completely satisfactory. It is, perhaps, not difficult to understand why this hesitancy exists. Though it may seem a very simple operation to one who operates with any frequency, it may not appear so to one who is not familiar with the procedure. The site of the operation may seem rather difficult of access. In the case of a nervous child, or adult for that matter, who may not be under moral control, it is not an easy or agreeable operation. Then there is the possibility of severe hemorrhage, and the apparent difficulty of controlling it, in the faucial cavity. But if the proper instrument is used, such reasons should not deter the general practitioner from operating. No one but an expert should use a knife around the tonsils, nor, if it be avoidable, should anyone make a clean cut so near as large an artery as the tonsillar is at the base of the tonsil. The lumen of this vessel rapidly decreases in size as it penetrates the tonsil, and if Morell Mackenzie's tonsillotome is used, no fear need be felt that vessels will be severed too near the larger trunk. Cases of alarming hemorrhage usually result from using a keen-bladed knife, or from tearing the tonsil, or part of it, from its bed. The Mackenzie instrument is rather bulky and clumsy, but it is strong and rigid, and there is a certainty in its use that does not pertain to any other known to me. It can be used as a tongue depressor and as a mouth gag. While cutting it partly crushes the vessel, and hemorrhage is consequently less than from a clean cut. With a patient under moral control, a cold or hot wire-snare can be used. In certain cases where a lobe may not have been included in the fenestrum of the instrument the use of the snare or cautery is desirable to complete the excision. But with a frightened, struggling child it would be difficult to operate at all with any instrument other than Mackenzie's without systemic anæsthesia, and that alternative is undesirable. An assistant is not needed where the patient is under moral control if a high-backed operating-chair is used, or other resisting backing to the head is provided that will prevent the jerking back of the head at the critical moment when severing the tonsil. In nervous cases, and with children, it is desirable to have an assistant hold the head and press the tonsils toward the median line from without. Very young children should be wrapped in a sheet and be firmly held in the lap of the assistant. Cocaine may be used, though the cutting is not very painful. most of the discomfort resulting from the pressure in the fauces

of the bulky instrument while crowding it over the tonsil. Cocaine is useful to shrink very large tonsils to the calibre of the instrument's fenestrum, but is a disadvantage when the tonsils are small; for, as a rule, it is difficult to take away enough tissue in making the cut. With the Mackenzie instrument one need never be afraid of removing too much. It is desirable to operate by artificial light reflected from the forehead mirror; but in that case the operator must be familiar with the use of the head mirror, and be able instantly and automatically, to follow every motion of the patient's head with the directed illumination during the few seconds consumed by the operation. Unless ambidextrous, operate first on the side of the least dextrous hand. Inserting the instrument with one hand, the cutting blade being retracted, use the first and middle fingers of the other hand to depress the tongue and to crowd the fenestrum of the instrument over the tonsil holding it in place, pressing the instrument outward as far as possible. Then, seeing that the blade of the instrument is held parallel with the antero-posterior and perpendicular lines, with the thumb press the blade firmly, and rather quickly, through the tonsil, which will generally be found clinging in the fenestrum on withdrawal of the instrument. Then, without giving the patient time to bewail his woes, firmly and decisively command him to open his mouth, and then excise the opposite tonsil. Always have a large pitcher filled with water and finely cracked ice previously provided to control hemorrhage. I have never had a case that could not be controlled by taking large mouthfuls of finely cracked ice in the mouth, and allowing it to come freely into faucial contact. Sometimes bleeding should be encouraged by free gargling with hot water. Although dangerous hemorrhage is rare, its possible occurrence should always be borne in mind, and its control by pressure or torsion be provided for. Pressure with prepared styptic cotton or other textile substances is efficacious, but astringent powders or solutions used alone are an ineffective nuisance as a rule. Antiseptic cleansing of the throat during healing is desirable, especially if diphtheria is prevalent.

I believe that all who have had any wide experience in excising tonsils will agree that only good can result from a properly performed tonsillotomy. The tonsil may have some beneficent function. It certainly tends to prevent the spirit of many mortals from becoming too proud, for a succession of attacks of quinsy, or even of follicular tonsillitis, can do a great deal in the way of undermining the general health, as well as in inflicting much suffering; but I have never known of a case where the system appeared to suffer from the loss of these bothersome bits of tissue. Granted that the tonsil is a large lymphatic gland and that it does a good work in manufacturing scavengering leucocytes, one is tempted to classify it with the vermiform appendix, corns, birth marks, warts, and such like additions to the body that could be dispensed with easily, and with satisfaction to society in general. I have heard of cases having sore-throats in after years which were attributed to loss of the tonsils, that would in all likelihood have suffered greater ills if these bodies had not been extirpated. As a matter of fact, the presence of these abnormally large masses of tissue in the throat draws excessive amounts of blood and nerve-attention to surrounding parts as well as to themselves. I have heard voice instructors, who should have known better, claim that the tonsil is a muscular organ of great importance to voice production, and that its removal seriously injured the voice; yet many an impaired voice has been restored to its normal excellence by the removal of enlarged tonsils. This operation does not prevent or cure every throat ailment. It will not entirely prevent those due to diphtheria, scarlet fever, measles, la grippe, syphilis, malaria, exposure to cold, etc., though an improved tone in the tissues of the throat, due to the operation, will be helpful in preventing some of those disordered conditions. However, the operation will almost entirely prevent attacks of follicular, as well as peritonsillar inflammations. Septic contamination is, with little doubt, an essential factor in these troubles, especially in phlegmonous tonsillitis (quinsy), and the cicatrized surface of the stump of an excised tonsil is apparently a successful barrier to the entrance of such germinal matter. I have in a number of cases removed one tonsil from patients, and in every case these same individuals have returned and had the other removed because they found immunity from tonsillar affections on the excised side, while they continued to have trouble on the unexcised side.

For several years I have resorted to this operation to abort attacks of quinsy, and, so far, always with success. This practice is contrary to what I was taught, and what, so far as I know, is still taught in the books, which say wait until after inflammation has subsided before operating. My practice is to operate at the beginning of an attack, before the fauces and neighboring parts have become too swollen. It aborts that attack, and prevents others in the future. If the practice were general it would save a great many hours of agonized suffering to humanity. Free incisions will sometimes abort an attack, but more frequently fail. Here is an additional list, probably incomplete, of what this operation will remedy: Anæmia, chorea, and other effects due to insufficiently aerated blood; noisy respiration, snoring, cough peculiar to the condition, impaired voice and articulation; shortness of breath, palpitation of the heart, and spasm of the glottis; broken sleep, nightmare, difficulty in swallowing, bad breath, disturbances of digestion, and impaired taste; mouth-breathing and facial deformity; hypersecretion of mucus and post-nasal catarrh; impaired nasal respiration and hearing; sometimes local pain, follicular pharyngitis and laryngitis.

ELECTRICAL INJURY FOLLOWED BY DELTOID PARALYSIS AND TRAUMATIC NEUROSES.[1]

By JOSEPH COLLINS, M.D.,

NEW YORK.

The following case, presenting as it does the history of a paralysis resulting, perhaps, from an electrical current, and followed by a rather complete functional palsy, is thought of sufficient interest to warrant reporting it.

M. F——, thirty-one years of age, by occupation foreman of a gang of telephone wire linemen. On September 23, 1890, while standing on a telephone pole repairing a trunk wire, he received a current from an improperly insulated electric wire which was fastened to the pole above, and had sunken so that it came in contact with the wire he was repairing. In his opinion—and he is a practical electrician—a current of more than a thousand volts passed through his body, the points of contact being on the inner side of his left leg and the left side of the neck. It was a close, damp day, and as he was perspiring profusely this probably favored better conduction. He thinks about three to five seconds elapsed before losing consciousness, and during this time he says he could distinctly hear the revolutions of the generator, nearly half a mile away; he suffered no pain, only a sense of being filled with something, and a feeling that when that sensation ceased he would die. As soon as he lost consciousness he fell a distance of twenty-five feet, striking a butcher's cart in his descent between the wheel and the body, falling on his side, and then he tumbled to the ground landing on his head and neck.

A few minutes after falling he regained consciousness sufficiently to know what had happened, but remained in a dazed condition for several hours. He was taken to the Presbyterian Hospital, where, he says, a diagnosis of dislocation of the shoulder and fracture of the clavicle was made. The next morning he left the hospital for his home, where I first saw him. The patient was in bed, his mental condition very clear, no particular evidences of

[1] Read before the New York Neurological Society, November 4, 1891.

the shock, and he complained of nothing save his neck and side. The Sayre plaster dressing for fractured clavicle which he had on had been applied at the hospital the previous evening. On examination a severe burn, about as large as the palm of the hand, was found on the left side of the neck just behind the sterno-cleido-mastoid muscle; below and behind this was a large ecchymosis; over the spine of the scapula was another contusion, and on the left side, extending from the fifth or sixth rib to the crest of the ilium, was one large contused wound. A burn somewhat larger than the one on the neck was found on the postero-internal surface of the tibia at its upper third. On removing the plaster dressing the contour of the shoulders seemed to be normal, save a dropping or slight flattening of the left shoulder. No good evidences of fracture could be obtained, and the patient was able to execute most of the movements of the arm in a limited way, with the exception of extending the arm outward, a movement brought about by the muscles supplied by the circumflex nerve. The general condition of the patient was good, except the ordinary concomitants of traumatic fever.

The arm was kept at rest for some days while the wounds were being treated, and anodyne poultices were applied over the shoulder and clavicle to relieve pain. After the burns had healed the muscles were tested for electrical reactions. The muscles tested responded normally, with the exception of the deltoid and teres minor. These with the galvanic current gave slightly increased contractions with the negative pole, and slightly decreased with the positive pole; both contractions incited slowly at the make and break of the current. Faradaic excitability was almost entirely absent. This condition continued unchanged for about three months, except that the excitability to the galvanic current continued to increase for the first five or six weeks, and then to diminish. That is, the number of cells required to cause contraction in the affected muscles continued to become less than the number required to cause contraction on the normal side. After this period the galvanic irritability began to decrease simultaneously with the apparent atrophy of the muscles.

About this time the patient began to complain of numbness of the entire left side, and his leg felt as if made of wood, and a feeling as if the entire left half of the body was paralyzed. Vision with the left eye was obscure, although there was no limitation in the visual field, and no changes could be found in the fundus ophthalmoscopically. The sense of smell in the left nostril was almost entirely absent, as was the sense of taste from the left side of the tongue. The thermal and muscular senses were also somewhat impaired. Sense of touch blunted in parts of the left extremities, but these seemed to be anæsthetic areas, otherwise the sense of touch was normal, but not acute. He complained of being fidgety, nervous, easily frightened, in constant dread of something going to happen, and he thought his mind was not quite as clear as it should be; but the symptom that gave him most trouble was the inability to sleep. The insomnia was very persistent, and none of the many hypnotics tried seemed to have any effect, with the exception of opium; but the administration of this drug was followed by exacerbations of the other symptoms. His bodily nutrition and functions at this time were in excellent condition, and indeed, while presenting this symptom complex he was gaining in weight.

This condition persisted for several weeks, the electrical reactions remaining about the same, with a continuance of the decrease of excitability to the galvanic current and a complete absence of the faradaic irritability, that is both a quantitative and qualitative change.

The ordinary therapeutic measures for the cure of the neuritis were resorted to—such as poultices, in the early stages, and later counter-irritation in the shape of iodine. and by small blisters, and the internal administration of arsenic and iodide of potassium. The hysterical phenomena continued, however, unabated, medicines and suggestions being of no benefit apparently, until in sheer despair it was decided to hypnotize him. The condition of hypnosis was brought about at the first attempt, by fixing his attention and suggesting that sleep should take place. He was carried in the hypnotic state as far as what Liebault calls the fifth degree, that is, a condition of light somnambulism wherein the patient remembers what has passed in a hazy sort of a way, where they have memory of certain things that have been said or done to them, while for others it is entirely lost. During the hypnotic *séance* the symptoms referable to the hysterical condition entirely disappeared. That is, he could hear a whisper in one ear as well as in the other, salt placed on the left side of the tongue was quickly detected, etc. It was then suggested to him that he would sleep soundly that night, and that these symptoms should all disappear, and he was positively assured that he would awaken on the following morning entirely free from his troublesome conditions. The *séance* lasted about ten or twelve minutes, and when he was allowed to come out of it he manifested a sense of forgetfulness as regards his whereabouts, and could only tell in a vague sort of a way what had happened. He was languid and drowsy for a few hours following, but after this had disappeared he began to feel better. The next day, when he presented himself the hysterical symptoms had vanished, and he related that he slept fairly well, without the use of any hypnotics, so that now all that remained was referable to the diseased condition of the circumflex nerve. About five months after the injury faradaic irritability began to be manifested in a small way in the deltoid muscle, and galvanic irritability also seemed to be on the increase, and these phenomena continued to improve, until the response to the electric current seemed to be almost normal as contrasted with the opposite side.

The patient, however, was unable to raise the arm from the side, and he had some trouble about rotating it outward. There being no good grounds for this disability, it was decided to hypnotize him again to determine whether or not a hysterical element was present in keeping this up. The state of hypnosis was brought about as before, it was suggested to him that he had the ability to raise his hand above his head, and he was commanded first to raise his right hand and afterward his left. This was done very quickly with the right, and then slowly he began to raise the left till the arm was at a right angle with the body, the patient groaning and becoming red in the face, and otherwise manifesting sensations of pain meanwhile. It was then suggested to him that he would be able to raise the arm the next day, and then allowed to pass out of the hypnotic condition. But on the following day he complained of pain and soreness about the shoulder, which was probably due to the breaking up of the adhesions arising from the long disuse of the shoulder-joint. The treatment by electricity was continued, and in about a week he was hypnotized with better results than before; that is, from this time onward he was able to use his shoulder muscles fairly well, and in nine to ten months after the receipt of the injury he was able to resume his occupation. Unfortunately, at this time, prolonged and excessive drinking of liquor impeded the rapidity of his complete recovery, but at the present time he is in good condition, with the exception of a certain amount of unwieldiness about the left arm and clumsiness of the left hand, and a feeling that the left side does not correspond exactly to the right.

The case brings up for consideration several interesting questions. First, did the passage of such an intense electric current through the left half of his body cause the injury to the circumflex nerve? and if so, why should this nerve be singled out while the others remained free? It is not at all improbable that electrical injury can cause neuritis as well as other physical irritants, if sufficiently localized and intense; but contact with the current was above the cervical plexus, and even if the injury had been received over the origin of the circumflex, the anterior

branch of the seventh cervical, its other division, the musculo-spiral, must also suffer; but this nerve was apparently uninjured. Inquiry or discussion on this point would be futile, as there is no way of positively settling it; however, it seems much more rational to believe that the traumatism resulting from striking on the cart-wheel was the probable cause of injury to the nerve, as the contused appearance of the shoulder and the extensive ecchymosis showed that he must have struck very heavily. Another interesting question is from a medico-legal point of view. This man has instituted a heavy suit for damages against the electric light company, claiming absolute loss of time for nearly a year and some permanent disability, as he avers that he is incapacitated from pole-climbing by a feeling of dread and unsteadiness. Granting that this condition is largely a neurosis, for the electrical reactions of his muscles are normal, can not the patient conscientiously claim that this condition is the direct sequence of his injury and is wholly beyond his control, and would never have resulted if not for the injury, as there is not the least neurotic trouble in his previous or family history. A point in his symptomatology that I would call attention to is the absence of limitation in the field of vision that has been so emphasized in cases presenting a symptom complex somewhat similar to this patient. Professor Schultze, of Bonn, has recently laid stress on the fact that, in several cases of traumatic neuroses that have come under his observation, this symptom was absent in the great majority.

As regards the method of treatment employed for the paralytic condition, it is not my purpose to enter into a discussion as regards the therapeutical effects of hypnotism, or as regards the probable ways by which it is brought about. Whether it be due to brain exaltation, or a psycho-physical transmission, or a direct physical or psychical action, the fact still remains that the condition can be brought about, and in some cases at least in hypnotism we have a measure that may, when properly and conscientiously used, be productive of an immense deal of good when all other therapeutical means fail.

It would probably be well for us as physicians, and for humanity in general, if we would cease to make use of the term hypnotism; so many people are apt to associate it with the mystic and supernatural, and to employ the term mental or psychical suggestion instead; for even the relation of this one case goes to show that any benefit that may have been derived from it, was brought about by suggesting to those cerebral areas which preside over the automatic part of inaugurating motion, which had been for so long a time dormant, to bring about movement; suggesting to, or stimulating those areas, while the parts concerned in higher functions were held in abeyance.

In this country, at least, we are fortunate in not having hypnotism carried to the extent of charlatanry that it is in European countries. And no one who has not looked specially into the matter can conceive of the immense deal of harm done in a city like Paris, alone, where, as Björnström relates, there are more than five hundred establishments with branches throughout the country, all doing a prosperous business and carrying this branch of therapeutics into disgrace.

The length of time elapsing between the receipt of the injury and the recovery of the functions of the nerve and muscles is apparently shorter than that ordinarily given in the authorities on traumatic neurosis; but it must be remembered that the circumflex nerve is comparatively short, and not far distant from its ganglion, and these factors, in conjunction with the reparatory powers of the body, are in all probability of the greatest importance in determining the length of time taken in the reparatory process.

Monochlorphenol is recommended by Dr. Passerini for inhalation in phthisis.

Ether Drinking is becoming fashionable in Paris, where it is taken with brandy, half and half.

Progress of Medical Science.

Acute Miliary Tuberculosis and Meningitis. — Dr. Reinhold (*Deutsche Archiv für klin. Med.*, 48, 1891) says that the irregularities in the technical curve without corresponding modification of the other symptoms in the typhoid form of acute miliary tuberculosis is, in doubtful cases, a point in favor of tuberculosis and against typhoid. A considerable acceleration of the respiration usually precedes quickening of the pulse. The absence of splenic tumor is also a strong argument for miliary tuberculosis, as is also the presence of small crepitant and sub-crepitant râles here and there without dulness or souffle. In the broncho pulmonary form the discovery of bacilli must not be relied upon for the diagnosis. It is better to seek for the origin of the disease in some local tuberculosis, infiltration of the apex, tracheobronchial adenopathy, or cheesy desposit in the kidney with purulent urine; all of which favor an acute tuberculosis. Tubercles of the choroid is only a late manifestation.

Complications of the Grippe.—Johannsen has seen an acute nephritis after influenza in a man of fifty-two, followed by a paralysis of the right arm with cold and cyanotic surface, in which recovery took place in twenty-four hours. A similar condition attended with severe pain then took place in the right foot and gangrene followed. Amputation became necessary and it was then found that the veins were filled with extensive firm thromboses. It was believed that the same condition had been present in the arm. Another case is related of a young girl of fifteen, who a few days after recovery from the grippe was taken down with a phlegmasia alba dolens of the knee. The case threatened to prove of a severe type but ended in complete recovery.—*St. Petersburg Med. Wochensch.*

A New Clinical Form of Diabetes is described by Hirschfeld (*Zeitsch. f. klin. Med.*), which is characterized: 1. By violent attacks of colic which occur in the early stages of the disease but cease subsequently. 2. By a urine but slightly increased in quantity, and consequently often depositing sediment. 3. By a white color of the fecal matters without fatty masses being discoverable in them. In this form the absorption of fatty and albuminoid substances is much diminished, instead of remaining about normal, as in ordinary diabetes. The clinical march, in consequence of troubles of nutrition, is ordinarily rapid and grave. One of the principal therapeutic indications is a diet containing albuminous materials, in particular fatty matter and alcohol.

Lysol, the new disinfectant and antiseptic, is recommended as promptly arresting the development of microorganisms. Cramer, Wehmer, Michelsen, and others have successfully employed it in surgery and gynecology, and Hænel says it is an unusually agreeable agent for the operator. Unna has used it as a plaster mull in various skin affections, and Phillips has tried it with some success in lupus. It has also been advised in rhino-pharyngeal and laryngeal disease, as well as in affections of the middle and external ear. It is obtained by dissolving the fraction of tar oil, which boils between 190° and 200° C., in fat, and subsequently saponifying with alcohol. It is a clear, brown, oily liquid, and contains fifty per cent. of cresols. It can be mixed readily with water, and forms clear solutions with glycerine, alcohol, chloroform, and various other fluids. Fuerbringer recommends half to one per cent. solution for the hands, and one quarter per cent. for instruments. It is only one-eighth as poisonous as carbolic, and cheaper. Pée recommends a one per cent. solution in midwifery and gynecology, and says that a 1 to 200 solution destroys streptococci in fifteen minutes. His experience with it has been very favorable.

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THE FINANCIAL SIDE OF THE QUESTION.

WE have often had occasion in these columns to refer to the money side of medical practice, for we think that is the side which the physician is too apt to neglect, his energies being devoted rather to the scientific and philanthropic aspects of his work. This is very right and proper in moderation, for the physician is primarily a scientist who labors for the good of his fellow-man, and whose first thought is ever for the relief of suffering and the saving of life. But this is not all. We have not yet reached the millennium of the socialists, and the State supports only a comparatively small number of its citizens, leaving the rest to find their own living by their brains or their hands, as each one is best fitted. The physician, therefore, while devoting himself to his fellow-man, giving him his time, the results of his study and experience, and the product of his best mental and physical labor, must also look to that fellow-man for his support. The laborer is worthy of his hire, and the medical man is entitled to a just compensation for his labor. But how often does he get it? That he does not get it as often as he should is only too evident, but what is not so evident perhaps, yet none the less true, is that it is our own fault and the fault of our predecessors that our services are never so readily paid for as the lawyer's, or even the clergyman's.

In a book recently published by Dr. J. J. Taylor,[1] the author goes into the causes for the condition that prevails, and suggests certain remedies for its relief. "It is a well-known fact," he says, "that however useful and indispensable the medical profession is, yet doctors are, as a rule, financially poor men. There is no class of men with an equal amount of capital invested, of equal intellectual force and scientific culture, and devoting an equal amount of time to business, who realize so little for themselves and families as medical practitioners. Painful examples are occurring all over the country, in crowded cities as well as in rural districts, of men eminent in scientific attainments, rich in a record of skilful activity and noble deeds, after a life of enthusiastic devotion to the relief of suffering humanity, finally passing away and leaving their own loved ones most inadequately provided for to meet the demands of every-day life."

[1] The Physician as a Business Man; or, How to Obtain the Best Financial Results in the Practice of Medicine. By J. J. Taylor, M.D., Philadelphia. The Medical World, 1891.

Some of the causes the writer finds in the unselfish principles underlying professional life, which forbid the practitioner to patent any instrument or to keep secret any therapeutic measure. Then the physician's sympathy for the suffering, and his absorbing interest in the scientific aspects of his cases, raise his mind above financial considerations, and cause him to forget that he is working for the support of himself and his family, as well as for the good of humanity. The physician has furthermore, as a rule, an inborn repugnance, or at least incapacity, for money-making pure and simple. He dislikes more than anything else the financial relations between himself and his patients, and he would gladly, like a surgeon quoted by Dr. Taylor, treat every and all patients just as they came, without a thought of the fee, if he could only be guaranteed an income sufficient to supply the present and future needs of his family. The public appreciates the fact that "there is no money" in medicine, and therefore the born money-makers avoid the medical profession instinctively, choosing for their life-work some occupation in which the chances of riches are greater. Owing to this shrinking from even the appearance of being mercenary, the physician often hesitates to prosecute his just claims, even when he knows that his patients can pay. Among other causes are the crowded state of the profession, and the resulting over-active individual competition, and also the unscrupulous and cruel competition of the swarm of dispensaries, clinics, and hospitals whose managers strive only for numbers, giving little heed in many cases to the financial circumstances of those who apply for relief, nor refusing to care for those who may be perfectly able to pay for medical attendance.

The remedy lies with the physician himself. He must school himself against the sentimental side of his work, and must cultivate business methods and habits. He must recognize the value of his own services, and must make his patients recognize it. It is often said that a man is valued according to the price he puts upon himself, and this is true in the good sense. If a man shows himself always ready to respond to every call, but never ready to demand a reward for his services, it will not be long before his patients become equally careless, and neglect to pay the bill when it is presented, reasoning that the doctor cannot need or care for his pay if he shows so little energy in getting it.

There is no reason why a medical man should not conduct his practice on business principles—indeed, there is every reason why he should do so. There is nothing derogatory to one's dignity in endeavoring to obtain as much as he can for his services, whether those services be in saving the property or life of a man in a court of law, or in restoring the health or saving the life of a man attacked by disease. The medical man must be a business man. He should do the very best he can for his patients, devoting to their service his time and his knowledge, and then he should make them pay for the attention, and pay well. Let his charges be as high as is consistent with the service rendered and the circumstances of the patient, and let him see to it that he is paid. If the physician appear indifferent about his pay he may depend upon it that the patient will be at least equally indifferent. Bills should be rendered promptly,

and should be followed by a reminder after a reasonable period if payment is delayed. And when necessary, if the patient is known to be able to pay, he should be forced to do so by legal methods. And here comes in the necessity of accurate book-keeping. Charges should be entered in the books at the time they are made, and the accounts should always be kept in such a shape that they may be offered as evidence in case it becomes necessary to sue a delinquent patient.

The little book from which we have quoted contains much that is interesting, and much that is practical, and should stimulate the careless to pay more attention to the business side of their profession. If physicians would insist upon a just compensation for their labor and their advice, they would not only better their own financial status, but they would also enhance the dignity of their profession. The average man values a thing at what it costs in money to get it, and when he finds that he can secure medical advice only by paying for it, he will learn to value it more highly, and his respect for physicians individually, and as members of a dignified profession, will be proportionately increased.

There is altogether too much free work, both in private and in public, done by medical men, and it is time they learned to take better care of themselves and of their families.

PATHOLOGICAL ANATOMY OF INSANITY.

In the *Journal de Médecine de Paris*, March 1, 1891, Dr. Luys states that in examinations of brains of patients suffering many years from excitement, there is hypertrophy of certain special regions of the paracentral lobules. These lobules are the point of confluence of cortical psycho motor convolutions and one of the regions where accumulate specially psycho-motor innervations. Hypertrophy would, therefore, indicate a focus of continued excitation, absorbing undue vitality, and leaving other regions to undergo more or less marked atrophy. This hypertrophy is usually symmetrical in both hemispheres. In the brain of a woman who had a visceral delusion, that was almost her sole idea, to the effect that a tape-worm found a lodgement within the internal organs and came and went at pleasure, there was unilateral hypertrophy of the paracentral lobules, those in one hemisphere remaining perfectly normal. The patient was perfectly lucid and rational on all subjects, except this one delusion, though it was difficult to induce her to speak of any other. Anatomically, Dr. Luys explains the coexistence of clearness of mind and a delusion. She was insane in one hemisphere of the brain and sane with the other. For such cases, the colloquial term "unbalanced" would seem to be literally true.

THE SCALENUS.

There is something novel and refreshing in the development of an acrid discussion over the scalenus muscle. We have always felt a certain degree of attachment to the scaleni (as they have to us), because they never lay so deep in the neck as to make their dissection tedious and difficult. We are glad, therefore, to find these muscles rising into controversial prominence. English and German anatomists count three scaleni muscles; the French have been content with two, but are now preparing to reduce this number to one, which accords, we believe, with the views of the old anatomists. M. Sebileau says that the scalenus starting above as a single muscle splits below in order to give passage to the brachial plexus and the subclavian artery. He adduces as proof of his contention the following reasons: 1. The uniformity of the insertion of the scalenic mass. 2. The frequent existence of anastomotic fasciculi between the anterior and the posterior scaleni. 3. The splitting sometimes observed of the anterior scalenus for the passage of the subclavian artery. 4. The passage in certain subjects of the brachial plexus through the scalenus posticus. 5. The fusion over the pleural dome of the pleuro-transverse muscle and the costo-pleural ligament. M. Sebileau regards the scalenus muscle as a group of intercostal muscles. It is, in fact, a *long cervical intercostal*, being inserted at both ends into ribs, above to the anterior tubercle of a transverse process —a rudimentary rib.

THE DOCTOR AND THE PRIEST.

Not long ago a controversy arose over the sick-bed of a woman in a neighboring city, between the attending physician and the spiritual adviser, which seems to call for a few words. Unfortunately, it was not the first time that similar disputes have arisen, and doubtless it will not be the last. The facts of the case, as far as they can be gathered from the newspaper accounts, are as follows:

The physician was called in the middle of the night to see a woman suffering from post-partum hemorrhage. While he was at work endeavoring to arrest the hemorrhage, the patient's spiritual adviser, a Catholic priest, who had been summoned by the relatives, arrived. He was met by the husband, who told him that the doctor was still engaged with the patient, but would probably be through in a short time, and that he could then administer the rites of the Church. The priest would permit of no delay, and insisted upon seeing the woman at once. It would take but a few moments, he said, to receive the woman's act of contrition, and even if her life was still jeopardized by the interruption of medical treatment, it was nevertheless the duty of the husband to give the spiritual adviser precedence at such a time. The welfare of the soul, he insisted, was of so much greater importance than that of the body, that it was better for one to take the chance of losing his life than to run the risk of dying without absolution. The doctor, on the other hand, refused to leave the bedside of the woman, as her condition was very precarious, and he feared that to abandon her at that time might result in her death. The end justified him in the stand he took, as the hemorrhage was finally arrested and the woman's life was saved. On the following Sunday the priest addressed his congregation from the altar, telling them that they ought to employ only Catholic physicians, who would see to it that they received the ministrations of the priest when they were dangerously ill, and added that he had been hindered in his work by Protestant physicians.

We can appreciate the position which the priest took, and believe that he acted in perfect good faith, and was actuated solely by a desire to promote the woman's spir-

itual welfare, and not by any wish to take precedence of the medical adviser. Yet he was wrong. The physician was actively employed in trying to arrest the hemorrhage, which, if uncontrolled, would cause the patient's death; and if he had abandoned her for ever so short a period at that critical time a life might, and probably would, have been sacrificed. If he had not succeeded in arresting the bleeding from the uterus, when he saw that death was inevitable, then it would have been his duty to make way for the clergyman. The ministrations of the priest could be postponed without prejudice to the woman's spiritual welfare, but those of the physician could not be put off without imminent peril to her temporal existence. Clearly, then, the doctor was in the right, and he would have been unworthy of his calling, whatever his religious convictions might be, had he abandoned his patient at such a critical period for any consideration whatever. It is, of course, the duty of the physician to respect the religious beliefs of his patients, and to warn their relatives of the danger of death, in order that they may call in the priest, if they are Catholics, and so desire. And we believe any true physician, be he Catholic, Protestant, Israelite, or agnostic, would do so, and would oppose any obstacle to the free intercourse of priest and penitent. But he cannot allow anyone, priest or parent, spouse or child, to separate him from his patient when it is a question of life or death. His mission is to save life, and he would be recreant to his calling, and well-nigh a slayer, did he desert his patient in the moment of peril.

The priest may have thought it was his duty to denounce the physician publicly during the celebration of religious services, but the ordinary simple layman cannot so regard it.

Meanwhile we congratulate the patient, who was the involuntary cause of the controversy, for she is still in the and of the living, and can now go quietly and calmly about the important duty of preparing herself for any future emergency.

The Annual Report of the Surgeon-General of the Navy, Dr. J. Mills Browne, for 1891, has appeared. From it we learn that only four vacancies now occur in the medical corps. The Museum of Hygiene has done some work, but its progress is hardly commensurate with the importance of the work it undertakes. There have been 1,796 books and pamphlets added to the library and 126 new exhibits to the museum. The death rate in the navy was 9 in 1,000. The number of sick in hospitals was 88.51 per 1,000. A large number of valuable reports on the medical and sanitary condition of the various vessels, hospitals, and stations are embodied and included in the volume.

Medical Inspection in the Public Schools.—The Boston School Committee have recently passed an order that the request of the Board of Health to appoint a number of medical inspectors of the schools be granted, the School Board assuming no responsibility. The object and plan of this system of inspection will be found on page 360 of the *Journal* for October 1st. This system may at present be said to be experimental. Fifty physicians will be appointed, and the inspection of the schools will probably begin on the first of the year.

News of the Week.

World's Fair Committees have been appointed by the several societies to act conjointly with reference to medical matters, and some outcome is patiently awaited. A very busy and progressive man, Dr. Charles Warrington Earle, has the matter largely in hand, and will, no doubt, continue its vitality.

The Death of Dr. Van Wyck.—The following resolutions upon the death of Dr. William H. Van Wyck were passed at a meeting of the Medical Board of Charity Hospital, held January 2, 1892:

"*Whereas*, The Medical Board of Charity Hospital has heard with profound sorrow of the death of their colleague Dr. William H. Van Wyck, which occurred on November 16, 1891.

"Dr. Van Wyck was one of our oldest members, and was endeared to us all by his geniality and kindliness of heart. He was an esteemed member by reason of his broad knowledge of medicine and of surgery, and of his rare talents in practical therapeutics.

"The members of the Board, therefore, hereby express their great grief at the removal of their esteemed colleague by death, and extend their sincere sympathy to the widow, relatives, and friends of the deceased, with the assurance that they will ever cherish his memory.

"*Resolved*, That an engrossed copy of this tribute to the memory of Dr. William H. Van Wyck shall be sent to his widow, and that copies shall also be sent to the home medical journals.

ROBERT W. TAYLOR,
HENRY GOLDTHWAITE,
THOMAS H. BURCHARD,
Committee.

"By order of the Board.
WILLIAM C. JARVIS, M.D., *Secretary.*"

Dr. Paul Mundé was elected a Corresponding Fellow of the Obstetrical Society of Leipzig, at its four hundredth meeting, on October 19, 1891.

The Contagiousness of Influenza is believed in by many physicians. Dr. J. R. Leeson (*Lancet*) describes how he prevented an epidemic in an asylum by isolation. The incubation, he thinks, is about five days.

The Bacillus of Influenza.—The cable states that Dr. Peifer, son-in-law of Koch, has discovered the bacillus of influenza.

The Law Against the Practice of Hypnotism Declared Unconstitutional.—The Court of Appeals in Brussels has recently had before it a case where three persons had been sentenced to eight years' imprisonment for having practised medicine, illegally employing hypnotism for the cure of various affections. Much to the surprise of the medical profession, the appeal was allowed, and the prisoners were discharged.

A Prolific Mother.—A woman in this State, thirty years old, married eight years, has given birth to fourteen children; viz., triplets three times, twins twice, single birth once. Only four children are now living.

Dr. Joseph Hilton, of this city, died on January 7th, aged seventy-six years.

The Paris Society of Medicine offers a prize of 1,500 francs and a gold medal for the best essay on tuberculosis, to appear before the end of 1892.

Dr. Wilhelm Krause, who has been Extraordinary Professor of Anatomy in the University of Gottingen for thirty years, has resigned his chair.

Professor Ernest William Brucke, the distinguished physiologist, is dead at Vienna. Professor Brucke was born in Berlin in 1819. He was the son of a painter, but soon turned his attention to physiology, which he studied at Berlin and at Heidelberg. In 1848 he became professor of anatomy at the Academy of Fine Arts in Berlin, and was called to the chair of Physiology at Koenigsberg, whence he went to Vienna in the following year as Professor of Physiology and Microscopic Anatomy.

The Hospital Sunday Collections have been rather meagre this year in this city, as they were in London. Up to date the amount collected was less than $25,000.

Bequests to Hospitals.—A large sum of money has been bequeathed to various hospitals of this city by the late Mrs. Robert L. Stuart. The sums reach $60,000 to $80,000.

Disease at Santos.—The captains of vessels arriving from Brazil bring most alarming reports of the ravages of yellow fever and small-pox in the pest-ridden city of Santos. Eighteen captains of merchant vessels have died, either from the black vomit or small-pox, within two months. On some vessels almost the entire ship's company, officers and crew, have perished from these maladies. Many sailors have died in the streets from yellow fever, so quickly fatal is the disease. It is estimated that at least two-thirds of the persons attacked have died. The great majority of the victims are immigrants and sailors. A much greater mortality than now exists is looked for during the hot months of January and February.

The Pasteur Treatment Failed.—A man died on New-Year's Day in Newburg from hydrophobia. He was bitten in thirteen places by a mad dog on September 19th. He placed himself under the Pasteur treatment, and at the end of a month was pronounced out of danger. A few days before his death, however, one of his arms, which had been bitten, became painful, and death from hydrophobia followed speedily.

Tuberculosis in Workshops.—A physician in Paris found 32 out of 35 men employed in the Electric Lighting Works in Paris were suffering from tuberculosis, 23 of them having become infected since entering the shop.

Removal of the Gasserian Ganglion.—Mr. Rose, of King's College Hospital, recently removed the Gasserian ganglion from a woman, sixty-three years of age, who had for two years suffered from very severe neuralgia of the supra- and infra-maxillary divisions of the fifth nerve. The operation was successful, the patient being entirely relieved from pain. Mr. Rose has performed this operation now four times.

The Prevention of Phthisis.—The Russian Society for the Preservation of the Health of the People, a non-official, but probably more or less officious, organization, has presented a petition to the health authorities of the empire, praying that consumption be declared a contagious disease, that notification of the disease be made compulsory on the medical attendant, that special hospitals be provided for the treatment of phthisical cases, that spittoons containing disinfectants be kept in all public places, and that spitting on the ground be forbidden under pain of fine or imprisonment.

The Marine Hospital Service.—Washington gossip has it that the former director of this service is tired of Chicago and wants his old place in Washington, but that his successor, the present incumbent, naturally wants to stay where he is.

Reviews and Notices of Books.

RECORDS OF THE ASSOCIATION OF ACTING ASSISTANT SURGEONS OF THE UNITED STATES ARMY, A.D. 1891. Edited by W. THORNTON PARKER, M.D., Recorder A.A.A.S. Pp. 149. Salem, Mass.: Salem Press Publishing and Printing Co. 1891.

THE Association of Acting Assistant Surgeons of the United States Army aims to obtain justice for a much-imposed upon, maltreated set of men, namely, its members. It desires, first of all, that assistant surgeons now in service be commissioned and paid as second lieutenants of cavalry. The book in hand gives a list of members, a history of the organization, minutes of the last meeting, and a record of its members. It is a splendid specimen of the publisher's art, and a handsomer book would be hard to find. The association deserves every encouragement.

EPIDEMIC INFLUENZA. NOTES ON ITS ORIGIN AND SPREAD. By RICHARD SISEBY, M.D., Member of the Royal College of Physicians of London. Pp. 150. London and New York: Longmans, Green & Co. 1891.

THIS is an excellent and timely treatise on the origin and method of spread of epidemic influenza. It finds its origin, he claims, in a microscopic organism, but where it first appeared is open to argument. The means of spread is contagion. The book is well written, the plates are good, and the author's exposition of the subject is a good and thorough one.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS; Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription-writing. By SAMUEL O. L. POTTER, A.M., M.D. Jefferson, M.R.C.P. Lond., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco; author of "Quiz-Compend of Anatomy and Materia Medica," "An Index of Comparative Therapeutics," and "A Study of Speech and its Defects;" late Acting Assistant Surgeon United States Army, and Brigade Surgeon National Guard of California. Third Edition, Revised. Pp. 767. Philadelphia: P. Blakiston, Son & Co. 1891.

THIS is an old and valued friend which needs no commendation, much less an introduction. It ought to be in the library of every physician and student. It is the most convenient and most concise work on therapeutics and materia medica in the English language, and is at the same time thoroughly reliable. Though necessarily largely a compilation, nevertheless there is much that is original, the author being one of the most prominent of American therapeutists. The contents embrace the essentials of practical materia medica and therapeutics,

the amount of pharmacy that every physician should possess, one of the best sections on prescription-writing ever written, besides a great mass of interesting and valuable material relating to the subject of the work. Both diseases and remedies are arranged alphabetically, making the book unusually convenient. The section on applied therapeutics includes, besides the writer's own views, the recommendations of fifty authors. All in all, the book is an exceedingly useful one.

A MANUAL OF PRACTICAL OBSTETRICS. By EDWARD P. DAVIS, A.M., M.D., Clinical Lecturer on Obstetrics in the Jefferson Medical College, Professor of Obstetrics and Diseases of Children in the Philadelphia Polyclinic, Visiting Obstetrician to the Philadelphia Hospital, etc. Pp. 298. Philadelphia: P. Blakiston, Son & Co. 1891.

THIS manual is, unlike many of its class, not a mere compilation, but contains a number of practical hints not usually found in larger works. The chapters on the diagnosis of pregnancy, the treatment of normal and premature labor, operative obstetrics, the puerperal state, and post-partum hemorrhage commend themselves especially by their clearness and conciseness. We are glad to see that the writer is a believer in episiotomy, and find on page 81 the only intelligent description of that useful operation which we remember having read. If the advice given in Chapter VI., on the examination of patients before the beginning of labor, were generally followed there would be an immense difference in the maternal and fœtal mortality. Obstetrics will never make any progress in this country until the general practitioner learns to recognize abnormalities before it is too late to save the patient. The chapter on the laceration of the perineum and pelvic floor is a useful one. In such a condensed work much must be omitted. As a serious omission, however, we note the absence of any reference to accidental hemorrhage, an emergency with the phenomena of which every accoucheur should be familiar.

The style is clear and concise, the illustrations helpful; in fact, the work is one which deserves, and will obtain, a wide circulation.

CONTRIBUTIONS TO GYNECOLOGY. Fasciculus I., The Galvanic Treatment of Uterine Fibroids. By EPHRAIM CUTTER, A.M. Yale, M.D. Harv. et Univ. Pa., LL.D. Iowa, etc. New York: William A. Kellogg.

THIS small volume, with its ponderous title-page and dedication, contains matter both interesting and amusing. Dr. Cutter's work in this direction is so well known that it is unnecessary to dwell upon his method of treating uterine fibroids. Full details of fifty cases are given, with comments. Of these, the growth was arrested in twenty five and disappeared in eleven; seven cases were "non-arrests" and four "fatals." The author is an enthusiast, but we think an honest one. However, comparing his claims with the more modest pretensions of Apostoli, one cannot help saying, "The lady doth protest too much, methinks."

ATLAS OF CLINICAL MEDICINE. Vol. I., Parts I. and II. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin., Assistant Physician to the Edinburgh Royal Infirmary, etc. Edinburgh: Printed by T. & A. Constable at the University Press. 1891.

THIS is one of the notable productions of the year. Judging by the parts already issued, the author intends to give to the medical public a splendid and systematic illustrated treatise of clinical medicine. Various forms of art are called into service to give the counterfeit presentment of abnormities described in the text — as photogravure, tinted crayon, and simple black and white, after paintings and photographs from life, now in possession of the author. The letter-press is designed to contain a detailed description of many of the diseases illustrated by the plates; and whenever possible a complete clinical history of the cases figuring in the "Atlas," and articles on medicine, with wood-cut illustrations. Each yearly volume will be complete in itself. Subscribers to the first yearly volume are under no obligation to subscribe to the second or succeeding yearly volumes. The present numbers contain most interesting and instructive papers on myxœdema, Hodgkin's disease, sporadic cretinism, Friedreich's ataxia, Addison's disease, etc., together with plates at once characteristic and impressive, though there is something to be desired in the matter of coloring. The author is a master of style, and offers to the reader a mass of valuable information that is the outcome of erudition and experience, in an English dress at once lucid, direct, and forcible. It is impossible to speak too highly of this valuable work, which must be studied to be appreciated. To the earnest student the "Atlas of Clinical Medicine" is one means toward the acquisition of a liberal medical education, containing, as it does, no word not germane to the subject and every explanation necessary to knowledge and precision.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY, THEIR SYMPTOMS AND TREATMENT. A Manual for Students and Practitioners. By JOHN C. SHAW, M.D., Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School; Consulting Neurologist to St. Catharine's Hospital and Long Island College Hospital; formerly Medical Superintendent of Kings County Insane Asylum. Forty-eight Original Illustrations, mostly selected from the Author's Private Practice. Pp. 194. Philadelphia: W. B. Saunders. 1892.

THIS is the latest addition to Saunders's excellent series of Quiz compends. It is a primer for advanced students, to be used in conjunction with Edinger's "Lectures on the Structure of the Central Nervous System," and Dr. Browning's monograph on the "Vessels of the Brain." Anatomy and physiology are not much discussed, but for its scope the book is first-rate and of great value.

A SKETCH OF SURGICAL HISTORY. (After Hecker.) By JOHN HUND, M.D. Pp. 38. Cloth, price 75 cents. Chicago: Ed. Ackerman & Co.

THIS is a short history of surgery from the time of Herophilis (1500 B C.) to the beginning of the present century. It is the first work of this kind in the English language, and is both interesting and valuable.

MINOR SURGERY AND BANDAGING; Including the Treatment of Fractures and Dislocations, Tracheotomy, Intubation of the Larynx, Ligations of Arteries, and Amputations. By HENRY R. WHARTON, M.D., Demonstrator of Surgery and Lecturer on Surgical Diseases of Children in the University of Pennsylvania; Surgeon to the Presbyterian Hospital, the Methodist Episcopal Hospital, the Children's Hospital, and the Drexel Hospital for Children; Consulting Surgeon to the Rush Hospital for Diseases of the Chest, etc. With Four Hundred and Three Illustrations. Pp. 497. Philadelphia: Lea Brothers & Co. 1891.

THIS book covers all that the ordinary works on minor surgery do, and in addition has chapters on amputations, ligations of arteries, tracheotomy, etc. In short, it is also an operative surgery, and a very good one too, its numerous and excellent cuts making the author's text unusually clear. One feature of the book that will make it popular is that part treating of aseptic and antiseptic surgery. Minute details for carrying them out are given, such as the preparation of gauze, silk, and catgut, making various solutions, etc. The author's extended experience as a hospital surgeon gives him especial fitness for writing such chapters, and they are all excellent and entirely practicable by the ordinary practitioner.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, November 18, 1891.

EGBERT H. GRANDIN, M.D., CHAIRMAN.

Case of Vicarious Menstruation.—DR. C. B. KERLEY presented the patient, an Irish girl, aged about twenty-five, who began to menstruate at the age of fifteen. Coincident therewith an abscess appeared about the level of the cricoid cartilage on the left side, which bled, and had bled again about four to six ounces of blood mixed with pus for four days out of each twenty-eight days since the age of fifteen, healing and forming a cicatrix during the intermenstrual periods. The only period of quiescence had been during the carriage of a baby and for four months during lactation, and again, the last menstrual period, when the cicatrix remained intact but blood escaped from the mouth. The patient said the hemorrhage on this occasion was from the throat, beneath the scar, but Dr. Rice made an examination and could find no evidence of this.

DR. C. S. COLE had a case under observation in which when anything, as a cold, interfered with normal menstruation, blood would be found mixed with the urine. He could not yet say whether it was a case of vicarious menstruation from the kidney or bladder, or one of lithæmia or other state giving rise to the hemorrhage.

THE CHAIRMAN had seen, and yet occasionally saw, three cases of vicarious menstruation. In one, the patient, now twenty-eight years of age, there was profuse epistaxis each month and very little discharge from the vagina. The second one menstruated in part from the umbilicus. He had been unable to find an opening, and the inference was the blood oozed from the sudoriferous glands. The third case consisted in hæmaturia occurring, not at every menstrual period, yet at no other time when it did take place. He said that some years ago Dr. Cairo presented a woman who menstruated from a molar tooth. The tooth was drawn by an enterprising dentist, but the patient continued to bleed every twenty-eight days from the cavity where the tooth had been.

Being asked by Dr. Kerley what management he would suggest in the case presented, Dr. Grandin said he would let the case alone so long as no harm occurred.

DR. KERLEY suggested that since at the last period the blood seemed to have come from the trachea, possibly danger would arise in the future.

THE CHAIRMAN was still of the opinion that it was best to wait, for it would be like looking for a needle in a haystack to operate where one knew not what he was operating for. The only suggestion which he could make in the case was to encourage freer flow from the uterus.

DR. KERLEY stated that Dr. Rice had excluded connection between this cicatrix and the thyroid gland.

DR. G. M. EDEBOHLS recalled a case of vicarious menstruation from the stomach, the patient vomiting blood every month. There was double pyosalpinx in this case, but he was unable to say whether the tubal disease had any influence in diverting the menstrual flow from the uterus to the stomach.

DR. WALLACE said that while he was house-surgeon at the Kingston General Hospital, Canada, a patient entered who, instead of menstruating normally, vomited blood monthly. There was only a "show" from the vagina. The os in her case was stenosed, and after it was dilated she menstruated in the normal way during the time she was under observation, which was six months.

DR. EDEHOLS knew a girl who at each menstrual period had a marked flush on one side of the face over a semilunar-shaped area, which revealed to all her friends the date of the event. She menstruated, however, in the regular way.

A Clinical Record: Ectopic Gestation.—The first paper of the evening was read by DR. C. S. COLE, on this subject. He gave a history of a case of irregular and missed menstruation, colicky pains, and an extra-uterine tumor. The case was seen in consultation by Dr. Grandin, who coincided in the opinion that it was in all probability a case of ectopic pregnancy. The patient was kept in bed three weeks; eight séances of electricity given (galvanic, fifty milliampères), six for fifteen minutes, two ten minutes, at intervals of from one to four days, at the conclusion of which the tumor had disappeared, the uterus had become enlarged, and a normal gestation seemed to obtain. An examination two months later seemed to confirm that opinion.

After reviewing some of the well known cases of this kind, and especially in the light of the case reported, the writer submitted as his conclusion the following propositions: 1. There is considerable, may we not say incontrovertible, evidence that a strong probability of ectopic pregnancy can be determined in the pre-rupture stage. 2. The diagnosis in the pre-rupture stage can, without operation, seldom, if ever, be absolute. 3. We are not justified before rupture in an immediate laparotomy, on a suspicion, however strong, unless there are peculiar and unusual conditions that will not warrant delay. 4. Electricity has proved itself, in intelligent hands, comparatively safe, often efficient, and is, in the pre-rupture stage, worthy of careful trial. 5. We should be prepared to do a laparotomy at any time if rupture supervenes, or if other considerations make operative interference imperative.

DR. VINEBERG thought the paper had covered the ground well. He recalled a case in which the attending physician had had the patient under observation for some time and nothing was present. When Dr. Vineberg examined her he found a tumor the size of a hen's egg, to the left of the uterus, the uterus was found to be slightly enlarged, there were irregular hemorrhages and the tumor just mentioned, and he made the diagnosis of extra-uterine pregnancy. It turned out, however, to be a case of uterine gestation, which the patient got rid of about the tenth or twelfth week.

DR. R. A. MURRAY thought it would be seldom the physician would have an opportunity to make a diagnosis of ectopic pregnancy before rupture, or immediate danger of rupture, for the reason that women seldom consulted the doctor during the first two months of pregnancy. He did not think it absolutely necessary to condemn all cases to the knife as soon as a diagnosis was made. Electricity might be used, but one should hold himself in readiness to resort to laparotomy as soon as any indications for it arose.

DR. H. J. BOLDT thought that in the majority of cases the diagnosis of ectopic pregnancy could be made with considerable certainty. The galvanic current would kill the fœtus, but he thought the patient would run less risk altogether by submitting to laparotomy.

DR. G. M. EDEBOHLS had diagnosticated ectopic pregnancy in three cases before rupture, and believed this was as surely possible as to diagnosticate other pelvic conditions. Before rupture and the third month he would use electricity.

DR. JARMAN referred to Hawley's case, in which an operation was performed before rupture, as evidence of the possibility of diagnosis at this period. Yet, as a rule, the physician was not consulted before the sac had partially or completely ruptured. It had been claimed on the one hand that electricity would kill the fœtus, and on the other, cases had been related in which it had been said to cause the fœtus to descend into the uterus. He could not understand the latter fact, while he might admit the former. In a hospital where they stood ready for laparotomy at any moment, electricity might be used, but he thought the risks were greater under the electrical treatment, without subsequent observation of the patient, than under surgical.

The Chairman made some remarks bearing on the diagnosis in this case, which he felt was as positive of extra-uterine pregnancy in the beginning as could well be short of laparotomy and exposure of the ovum. If there was an error in diagnosis, and if Dr. Cole had opened the abdomen, what would he have found? There was a tumor, but what could have been its nature since, without other treatment than electricity, it had disappeared? Why, if it were an ectopic pregnancy, electricity should not have killed the fœtus he was unable to say. In fact, we knew yet very little about electricity. Perhaps the fœtus, being only about four weeks old, was of such low vitality that it was able to survive fifty milliampères of the galvanic current. The tube, not being over-distended, may not have lost its power of vermicular contraction and expelled the ovum into the uterus. As far as any one could tell, the patient was then four months gravid. It was fair to remark that had laparotomy been performed the woman might have died, for laparotomy, no matter how carefully performed, carried risks.

He also put on record a case in which he made the diagnosis of extra uterine pregnancy, a tumor being present, and other signs of pregnancy which could not have been in the uterus, since he curetted this organ. He used electricity, and afterward a hæmatoma formed which he evacuated by vaginal puncture; again, a pelvic hæmatocele formed, and here again he inserted his finger by way of the vagina and cleaned the cavity of clots. Laparotomy could not be performed for want of assistance. The patient made a complete recovery.

Glass Pessary Worn Twenty-five Years.—Dr. R. A. Murray presented a glass ball, hollow within, which a woman aged seventy-eight, had carried in her vagina about twenty-five years. He had considerable difficulty in removing it from its embedded position.

Three Cases of Fibroids.—Dr. Murray also showed three small submucous fibroids from three different cases. All the patients had suffered much from hemorrhage, and had been treated by different physicians, who, it seemed, had not recognized the real cause of the trouble, but attributed it to the approaching menopause. The cases illustrated the necessity for examining all women who bled about the time of the climacteric.

The Treatment of Incomplete Abortion at Roosevelt Hospital.—Dr. H. G. Locke read a paper with this title. In the class of cases treated at the hospital there was seldom any hope of checking the abortion, in many there had been exposure to sepsis, in many the condition was due to criminal practice. They could not therefore have much surety of the patient's safety without placing the uterus beyond the possibility of infection. The expectant plan of treatment was hardly practical. They proceeded as soon as possible to empty the uterus. If hemorrhage was not too great, the patient was given a good bath. The operation was done with all the precautions that were taken in laparotomy. The external genitals were thoroughly scrubbed and washed with bichloride, the patient put in the lithotomy position, the vagina, fornix, and cervix scrubbed with soap and water and disinfected with bichloride, the cervix cleansed of mucus and washed. Then, with an assistant holding the perineum back with a speculum, another holding down the cervix with a tenaculum, the uterus grasped and held through the abdominal walls, the surgeon proceeded, if the cervix were not sufficiently dilated, to dilate with the metal dilator. Then the uterus was emptied of ovum and membranes and shreds by the finger, the lion-jawed forceps, and curette. It was then irrigated with bichloride, and if contraction did not take place and stop hemorrhage, tincture of iodine was applied, and in later cases they might introduce a tamponade of iodoform gauze, which was gradually removed during the twenty-four hours, commencing after the third hour. The bladder was emptied by catheter for twenty-four hours. The patient usually remained a week.

The Method too Complex.—Dr. R. A. Murray thought the method outlined rather complex to be useful in private practice, and in hospitals simpler methods should be used in order that physicians training there might be able to apply them outside where few assistants could be obtained. He believed there was no necessity, short of hemorrhage or sepsis, for interfering with the uterus. Cleanse the vagina, for until this was done we could not say that an odor was from the uterus and not from retained clots in the vagina. If now the tip of the finger introduced into the cervix had a foul odor, the uterus should be entered. He would not use any puncturing intrument in holding the cervix, lest it might thus be inoculated with septic matter. The metal dilator caused pain, and therefore an anæsthetic should be given; unless the uterus were held, it was liable to slip and do harm. He thought dilatation could be effected with tampon or tent with antiseptic precautions. After the uterus had been emptied completely, all hemorrhage, according to his experience in cases up to the fourth month, would stop. He had never introduced the tamponade into the uterus, even at full term; in abortion, as in normal labor, he applied the antiseptic pad.

Dr. J. Clifton Edgar thought that where the abortion was not complete—at, for instance, the third month—forcible dilatation would result in retention of some of the membranes and necessitate curetting, whereas if the plan were adopted suggested by Dr. Murray, the vagina rendered aseptic, and a tampon introduced, the ovum would probably come away without rupture, rendering subsequent curetting unnecessary. Where it was necessary to empty the uterus immediately, sometimes the ovum could be grasped with the forceps and be removed with the membranes complete, obviating the necessity for curetting or introducing the finger. He would feel that the bullet forceps were safer than a tenaculum.

The Chairman thought that under the limitations stated in the paper, of incomplete abortion, the method described was an ideal one for a hospital, but it was not applicable in private practice except in the better walks of life. It was not always possible to have a nurse, someone to hold the speculum, another to hold the bulldog forceps or tenaculum, and, so far as his experience extended, it was not necessary. He had seen many cases of abortion, and had lost none. As a rule he had had to do all himself—to give the anæsthetic, dilate the cervix, clean out the uterus. He used hot water, but no germicides; he had found no need for the gauze tamponage before the fourth month, and if he should ever employ it he would leave the iodoform out. If the uterus were septic he would use the sharp curette and then throw in peroxide of hydrogen.

The Utility of a Thorough Examination.—The *Hospital Gazette* tells the following tale of the rapid rise of a medical man in London into fashionable business, on the authority of a fellow-practitioner, and possibly an envious rival. He was conversing with a lady's maid in an aristocratic family, one of whose junior members he had been attending, and he ventured to ask "How is it that the Duchess thinks so much of Dr. Goosely Robinson; usen't she to be a homœopath?" "Oh, yes, sir, she was, but this new doctor just suits her Grace; he's very pleasant in his manner, and even when there's nothing the matter with her he examines her so very carefully—in fact, you know, *stereoscopes* her all over."

Three Deaths from Chloroform have recently occurred in London: One in a man, aged twenty-seven, about to be operated upon for cellulitis of the leg; another in a man, also young, with varicocele; and the third in a young girl with an abscess of no great size—all three cases in which without the chloroform the young people would doubtless be alive to-day. It does take people a long time to learn that ether, dangerous as it may be, is a safer anæsthetic than chloroform.

Correspondence.

THE HEALTH RESORTS ON THE RIVIERA.

I.—COSTEBELLE, HYÈRES.

(From our Special Commissioner.)

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Here I am writing my first Riviera letter, seated at an inoffensive little table in a plainly furnished room, which in a few weeks from now will have been completely transformed by the magic wand of Reigning Sovereignty.

Where England's Queen will Live.—For it is destined to be one of the suite of rooms that for years afterward will be visited by reverent crowds of admiring Anglo-Americans, because Britain's Queen will then have used it as her most private parlor (in English, "drawing-room"). It is, of course, eminently proper that through the columns of the MEDICAL RECORD the world at large should for the first time learn something definite and reliable, especially about sanitary matters, in connection with the Queen of England's spring residence on the Riviera.

Having spent the past few days at Hyères, or more correctly speaking, at Costebelle, I have no hesitation in saying that the august lady must have had very competent advisers. For this quaint old town is certainly one of the most lovely, as it is well known to be the most southern, of all the numerous "winter stations" along the north shore of the Mediterranean.

The Hermitage and Costebelle Hotels.—As a general thing I am quite willing to take my chances for getting pretty near the truth by the easy method of saying just about the opposite of what the familiar shyness and modesty of continental hotel-keepers forces them to reluctantly admit concerning the surpassing excellences of their properties. But in the case of the Costebelle hotels I must really make a departure from my usual method, for M. Peyron, the French proprietor of the place, has told only the truth when he claims that the Costebelle or Ermitage winter station is one of the loveliest and least known of all the health resorts on the Riviera.

From the railway station of Hyères it is but one mile of slightly up-hill wooded road to Costebelle. From the town proper it is two miles in a southerly direction. From Marseilles to Genoa, *i.e.*, along the entire Western Riviera, or "*le littoral*," as the French call it, there are ever-changing and enchanting views. But in all this favored strip of land, so abundantly blessed with blue skies and health-giving sunshine, I have found no prettier views than those which are enjoyed from the Costebelle hill-sides.

Situated on the southern slope of an eminence appropriately named, "Mont des Oiseaux," which effectually protects it from that much-dreaded wind called "mistral," surrounded by forests of aged pines, oaks, and olive trees, that richly clothe in different shades of green the adjoining hills on the north, east, and west, and with a southerly view over undulating woodlands, stretching out into a picturesque plain that ends abruptly at the Mediterranean Sea a mile below, Costebelle has been happily chosen as a site for a few first-class hotels. Even now they are all too small for the crowds already flocking to the spot where British royalty will soon hold sway.

Why Costebelle and Hyères are so Little Known.—Quite apart from the transient interest that Costebelle will excite on account of the Queen's visit, the place has intrinsic merits that entitle it to be far better known in America than it has been in the past; and this remark applies to Hyères as well. The reason why Costebelle was so little known is thus explained. Costebelle is the newest, as Hyères, of which it is the suburb, is the oldest of the Riviera winter resorts.

When Cannes, by a mere chance, was preferred by the late Lord Brougham to Hyères as a winter residence, it suffered but a slight injury compared to that which the Paris, Lyon & Méditerranée Railway dealt it when they decided to run their line directly to Cannes, leaving Hyères to be served some years afterward by a branch line. How the town authorities could have quietly submitted to be thus isolated they themselves do not now understand.

For some time, however, constant agitation has been made on the subject, and, at last, promises have been made by the Railway Company to materially improve the train service of Hyères, and to render more apparent to visitors the advantage it has of being three hours nearer to London than the next station, *i.e.*, Cannes. Another reason for Costebelle not being more generally known is the short time it has been in existence.

The late Duke of Grafton some years ago found it to be a site without parallel along the whole coast. He built a princely villa and made a road through the pines to serve it. But only within the last ten years has any move been made to provide accommodations for the increasing number of visitors.

In addition to the two hotels selected for the Queen, Costebelle has a third and quite modern hotel, called the Albion, which is in every respect a first class family residence.

Famous Costebelle Villas.—Separated from these buildings by beautifully shaded foot-paths is the residence of Ambroise Thomas, the celebrated composer of "Mignon," then that of the Count de Leautaud. From thence her Majesty, and even lesser mortals, will be able to pass into the gardens of the Château de Saint Pierre, an odd-looking structure, erected by M. Germain de Saint Pierre, the tutor of the last of the kings of France. Beyond is the villa of the Duchess of Grafton, built by the late Duke, who is erroneously credited with being the first to have discovered the advantages of Costebelle as a winter resort. The Grafton villa is at present occupied by the Duchesse de Noailles. The Queen will therefore have a very extensive park at her disposal, and as it is traversed by no main roads it will afford all the quietude and privacy which she seeks during her continental sojourn. American fanciers of real blue blood—and, as is well known, we do raise that variety of fish in our muddy republican waters—Americans of this stripe, I say, should lose no time to secure accommodations now.

I will wind up this letter by a brief account of the sanitary arrangements at Costebelle, and the climatic advantages of Hyères itself, so undeservedly unknown in the United States.

The Water Supply of Costebelle.—This is the same as that of Hyères proper. The water itself is of a very hard variety, and deposits calcareous particles in abundance. It is conducted in iron pipes from a reservoir to the houses and hotels.

The Trou des Fées.—On the top of a hill (345 feet) opposite the east side of the Oiseaux peak, is a cave called the Trou des Fées. The entrance is by a vertical cavity, resembling a well. The interior, covered with stalactites, is about ninety six feet long by forty feet wide. To explore it lights are necessary. The hole is not very easy to find, though a path leads directly to it. It is situated under some fir trees. The road down by the eastern valley of the Montagnes des Oiseaux to the Costebelle road passes near one of the principal springs which supply the town. The other source is in the plain, on the road "du Père-Eternel," nearly two miles south-east from the town. It is pumped up by an engine of twenty-six horse-power. The water filters to this place from the Gapeau, one mile east, through the gravelly soil of the plain. There are thus fairly good safeguards against contamination by organic impurities. An analysis of the water I was unable to obtain, but, of course, it is not every alimentary canal that lime-water is suited to. Patients will do well to seek medical advice before freely drinking it.

Drainage and Sewage Disposal.—The town of Hyères is run on the cesspool system, as are the hotels of Costebelle. In the latter I found modern trapped and reinflushed basins, with a two gallon cistern tank and pulley to each closet. But there are no separate vent-pipes for every basin. There is, however, one large trap, properly ventilated to the roof outside the hotel. Into this empty the house-pipes. The sewage then runs down hill into an ample and well-cemented cesspool, some two hundred and fifty feet distant from, and much below the level of the hotel. Unfortunately they allow the kitchen waste-pipe to empty into the main sewage pipe nearer the cesspool than the trap. Hence it is quite possible for foul gas to get into the kitchen from the cesspool But as the proof of the pudding is in the eating, I must state that there was no odor in the kitchen except the proper and becoming *mélange* of little smells that Gallic (not garlic) culinary departments always fondly harbor. Still, the system of running kitchen waste-pipes into the general sewer is not a commendable one, and will probably be altered before the royal advent.

The Climatic Advantages of Hyères. — Hyères proper, as already intimated, is undeservedly unpopular, or unknown. True, some English families continue to go there, but Americans give it the cold shoulder, and why they do so the American only knows, and he won't tell. The proximity to vice and the gambling-tables of Monte Carlo undoubtedly have something to do with the case. But the very absence of grosser amusements should recommend Hyères to a refined minority of chaste pleasure-seekers, as well as to actual invalids in search of a quiet natural sanitarium.

Through the courtesy of Dr. Biden, for many years resident at Hyères, I am able to present to the readers of the MEDICAL RECORD observations not hitherto published in any Riviera guide-book.

Synopsis o Meteorological Observations Taken at Hyères.—The shade thermometers are placed in a Stevenson's screen. The screen stands in the open, completely exposed all around, quite away from buildings and walls. If $\frac{1}{100}$ of an inch of rain is measured in the twenty-four hours it is considered a day on which rain has fallen.

Month.	Mean shade temperature. Thermometers registering and correcting.		Mean daily shade temperature.	Solar radiation (black bulb in vacuo).	Relative humidity, daily mean.	Days of sunshine per month.	Days of wind.				Rainfall.
							Days calm.	Light to fresh.	Strong to a gale.	Days on which rain has fallen.	
	Max.	Min.		Mean.	Per cent.						In.
November..	61.4	45.8	53.6	106.5	76	21	16	10	2	7	3.52
December..	55.5	40.5	48.0	98.7	73	21	15	11	5	6	2.86
January....	55.8	39.3	47.5	101.2	76	23	18	9	3	6	3.08
February...	56.5	40.6	48.5	105.7	75	20	13	11	3	6	2.21
March	59.8	42.3	51.0	112.1	71	25	12	15	3	5	2.26
April	63.3	47.2	55.0	117.6	71	23	9	16	4	7	3.11
Mean	58.7	42.6	50.7	107.0	73.5	135	84	74	22	39	17.04

Indications and Contra-indications.—"The winter climate of Hyères and Costebelle is suitable especially for consumption, chronic bronchitis, asthma, heart disease, and rheumatism, also Bright's disease, gout, incipient paralysis, and the feeble constitution of delicate children. In consumption, obviously, the disease is most amenable in its early stages. Nevertheless, remarkable instances have occurred of relief in advanced cases of a type quite unsuitable to Alpine climates. The occurrence of hemorrhage is not a contra-indication to residence here. For those beyond middle life it is difficult to conceive a more suitable environment than Costebelle offers. The climate of Hyères is less exciting than that of Cannes and Nice" (Dr. Sawtell). "The chief attractions of Hyères are its climate and the beauty of its environs, which render it an agreeable place of winter abode, even for persons in health, who do not require the animated movement and recreative resources presented by large towns, and who are in tolerable walking condition. The walks and rides, both on the plain and through the cork-tree woods, by which the hills are for the most part covered, present considerable variety, while from the more elevated positions charming prospects may be enjoyed" (Dr. Edwin Lee). The barometer is high and steady. But on the Riviera, as elsewhere, every winter varies in the rainfall and in the degree of cold; and, therefore, it may happen that the traveller's experience will not agree with the stereotyped meteorological tables.

Drs. Biden and Cormack, the only English physicians residing at Hyères (with customary accuracy the 1891 editions of Riviera guide-books give the names of doctors long since deceased), agree in assuring me that Hyères is a healthy town. There is very little typhoid, no diphtheria or other zymotic diseases, and the foreign colony has nothing to fear, and nothing to regret at this delightful winter resort. Anæmia and American neurasthenia should do particularly well there. About the only contra-indication for a winter's residence at Hyères is furnished by recent neuroses, with a tendency to mania.

Accessibility of Hyères.—Hyères is about eighteen hours from Paris. From London you can reach it by the "train de luxe" in twenty-five and one-half hours. In addition to the old route there is now a new line of railway, entirely independent of the Paris, Lyon, Méditeranée. It has been opened during the past two years from St. Raphaël to Hyères. "This line belongs to the Chemin de Fer du Sud de la France, and runs along the coast of the Mediterranean, through the most beautiful and picturesque scenery of the Riviera.

"American visitors to the Riviera would be well repaid by breaking their journey at Hyères, or rather at Costebelle (which is a suburb of Hyères) for a few days, so as to enjoy the natural beauties of this spot, and then proceed to Cannes or Nice by the above route. The time occupied by this railway is precisely the same as that of the Paris, Lyon, Méditeranée. The advantage is, that you pass through a lovely country, studded with quaint old towns perched on the tops of hills, with the remains of old feudal castles towering over the other houses, instead of being dragged along for three hours through an uninteresting plain, with nothing but olive-trees on either side."

HYÈRES, December 28, 1891.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE DISCUSSION ON INFLUENZA AT THE MEDICAL SOCIETY OF LONDON — EIGHTY SIX NEEDLES EXTRACTED FROM THE BODY OF AN EPILEPTIC PATIENT—RAPID HEART—XANTHOMA DIABETICORUM—THE RECENT ELECTION AT ST. THOMAS' HOSPITAL—DEATH OF SIR J. RISDON BENNETT.

LONDON, December 29, 1891.

THE adjourned discussion on influenza was resumed at the last meeting of the Medical Society. Dr. Symes Thompson said he thought there was evidence that nervous disturbance was not merely an accidental sequel of influenza. Any shock to the nervous system might check brain trouble, and that might explain the fact related by Dr. Savage, that acute insanity was sometimes removed by an attack of influenza. He had seen some curious evidence of neuroses, such as herpes, in the course of the fifth nerve. Alluding to the theory that lung affections were due to the removal of nerve-control, he said there was a good deal of evidence of serious affection of the function of the vagus, such as sharp attacks of dyspnœa with marked pulmonary manifestations. In several cases he had met with tachycardia, the heart-beats reaching 200 a minute. Recumbency was desirable, if only on account of the heart weakness. When heart failure did occur, it

seemed to be due less to sheer nerve weakness or valvular defect than to a violent disturbance of the nervous system controlling the heart's action.

Dr. Sansom said he had not seen much acute delirium or insomnia, but had met with some of the more usual complications, some of which puzzled him extremely. One patient was suddenly seized with intense liver pain, simulating colic, lasting an hour. He had also met with cases simulating angina pectoris, and even when not associated with pain there was often marked cardiac perturbation. In other cases there were nervous disturbances akin to those met with in alcoholic neuritis. He concluded that the influence of the poison could not have been exerted generally on the nerve-centres, for the symptoms were too localized.

Dr. Bezly Thorne said the real danger of influenza began where most people supposed it to end, viz., when convalescence commenced. He thought every case of influenza should be treated as one of cerebro-spinal concussion, and kept in the recumbent position.

Dr. Sisley asked whether Dr. Savage thought insanity protected against influenza. He had observed that prisoners escaped largely during the great epidemic, and it occurred to him that this must be due to their isolation; the same thing would obtain in lunatic asylums. The statistics as to the supposed protection of soldiers in Germany were by no means convincing.

Dr. Heron thought the spread of the disease might be checked by isolation.

Dr. Guthrie pointed out that the poison was both irritant and depressant, and the irritant sometimes predominated. He insisted on the functional nature of the neuroses of influenza.

Dr. Paramore drew attention to hyperpyrexia as a cause of death.

Dr. Althaus then replied, and said that though the local nerve disturbance was often very marked, there was indisputable evidence of derangement of the general nervous system. Revaccination was less methodically carried out in the French than in the German army, and the virulence of influenza was far greater in the former than in the latter, but he admitted that such comparisons were misleading.

Dr. Savage, in reply, said that in several cases of melancholia finding the pulse at 110 or 120 had led him to inquire whether there had been an attack of influenza, and he invariably found such had been the case. It was curious how the inmates of lunatic asylums suffered in smaller proportion than the attendants; in one asylum half the attendants were attacked, but only ten per cent. of the patients. The average physician would lose sight of his patient when convalescence set in, and that was just when the mental symptoms came on. He had no doubt that influenza was a potent factor in the production of general paralysis of the insane in certain subjects.

At the last meeting of the Clinical Society Dr. Bastian read notes of the case of an epileptic woman, an inmate of the workhouse at Guisborough, from whom eighty-six needles had been extracted at intervals from various parts of the body. Seven of the needles were very large —from three and one-quarter to three and one-half inches in length. Fourteen others were still to be felt in various parts of the body. The patient was now fifty-five years of age and had been subject to fits from early childhood; she sometimes had several in one day, and rarely passed a day without having one. Needles were first noticed in her body after she had been in the workhouse about twelve months, during which time she had been accustomed to do much sewing and often had packets of needles in her possession. The needles had all been extracted by the doctor, the nurse, or the matron, or by the patient in the presence of one of them. With one exception, they had all been extracted from some part of the left side of the body.

Dr. Buckland read a paper on a case of rapid heart in a girl of eleven. Several attacks occurred, one in the course of an attack of measles. There was no evidence of structural cardiac change, and he regarded the case as a neurotic one. Treatment by means of stimulants, heart tonics, blisters to the neck, and the application of the constant current to the region of the pneumogastric in the neck was not followed by any benefit.

At the Pathological Society Mr. Malcolm Morris and Mr. J. J. Clarke showed a case of xanthoma diabeticorum —the eleventh on record. Mr. Clarke described the microscopic characters of the lesions as seen on examination of a small piece of skin which had been excised. The authors reviewed the literature of the subject, and concluded that the disease was essentially the same as ordinary xanthoma. They thought its anatomical characters might be summed up by describing it as a chronic deep dermatitis with early fatty degeneration.

The surgical staff at St. Thomas's Hospital has just been increased by the election of a fourth assistant surgeon. The circumstances attending the election have occasioned no little discussion during the last few weeks. A vacancy for an assistant surgeon having occurred, there were two candidates who were considered as having strong claims, having both of them done important work for the hospital while holding various appointments. One of them, however, was some years senior to the other, and had also (what has hitherto been regarded as an essential before being elected on the staff) held the appointment of resident assistant surgeon, which his younger rival had not. The latter, nevertheless, was recommended for election by the members of the staff. The Grand Committee of the hospital refused, however, to confirm this recommendation. After considerable discussion, and a further consideration of the subject by the committees in question, the difficulty has been got over by electing a fourth assistant surgeon as well as filling the vacancy. This appointment has been bestowed on the junior candidate, Mr. Ballance, the other vacancy being filled by the election of Mr. Battle.

The death is announced, at the age of eighty-two, of Sir J. Risdon Bennett, a past president of the Royal College of Physicians.

FAVORITISM AT THE NEW YORK ACADEMY OF MEDICINE.

To the Editor of the Medical Record.

Sir: "The object of the Academy shall be: The Promotion of the Science and Art of Medicine, including the maintenance of a Public Medical Library."

The above is Article II. of the Constitution of the New York Academy of Medicine, and the object of this communication is to state my reasons for believing that the provisions of this Article are at present carried out in a narrow, exclusive, and partisan way. I will be as concise and brief as possible.

For some time it has been the custom of officers of the Academy, either spontaneously or at the request or instigation of others (possibly the readers of papers), to append, on the card of announcement, a list (of variable length) of those who will open and carry on the discussion of the paper of the evening when read. This list may contain anywhere from one to twelve or more names, and we claim that this assumption of authority by those in power is in direct violation of the above-mentioned "object" of the Academy, and diametrically opposed to the best interests of the organization.

Let us study its working in a sample meeting. At eight o'clock, if a quorum be present, the following order of business is commenced and pursued: The minutes are read; the Council, Trustees, and Committee on Admission report; new Fellows are admitted; the Corresponding and Statistical Secretaries and the Committee on Library report; Sections report in their order; then come reports by leave; then the paper of the evening is an-

nounced. By this time it is never earlier than 8.30 P.M., and oftener much nearer 9. The paper over and the favored few debaters having parted with some of their residual air, the hour of 10.30 P.M. is generally reached, discussion is closed, and a motion to adjourn is made and carried. The bewildered new member, after a few experiences like this, queries in what respect he is any better off than an outsider. Any outsider can consult books in the library but cannot take one home; no more can a member. Any outsider can attend meetings and hear papers read, but cannot discuss them; neither can ninety per cent. of the members. If of a speculative turn of mind the member might then well say, "What object is there in belonging to and helping to support an institution so partisan and undemocratic?" Did someone answer, "Honor?" There was a time when it was some distinction to belong to the Academy, but I claim that time is past. Need of money and the demand for plastic material for caucusses have thrown wide open the doors, with the result of making the Academy, professedly a popular medical body, unselfish and democratic in the matter of receiving large dues, selfish and undemocratic in returning anything approaching a fair equivalent therefor.

The Academy is a deliberative body, and as such should follow rules governing other deliberative bodies. A slight recognition of this duty appears in Section 10, By-Law 23, of the Academy, which says, "All questions of order, not provided for by these rules, shall be determined by parliamentary usage as expounded by 'Cushing's Manual.'" My claim is that no deliberative body extant has the right to mould debate or gag discussion. The dictates of ordinary parliamentary law are plain. The paper read, it should, by the presiding officer, be presented for discussion. The first member on his feet, properly addressing the chairman, should be accorded the floor and allowed an allotted time, provided his remarks are relevant and decorous.

The abuses possible in any other conduct of debate are numerous. Suppose the reader of a paper containing some startling innovation or radical or revolutionary ideas should designate as proper persons to participate in debate only those pledged to or favoring his ideas. In this way any criticism or condemnation, however much deserved, might be suppressed, and the meeting might resolve itself, as it often does, into a mutual admiration society. Healthy criticism, honest contention, and the free and full expression of adverse views do more to "promote the science and art of medicine" than any amount of unquestioning acceptance of radical views or servile adulation of imaginary superiority.

Again, it is preposterous to assume that any man, or clique of men, can justly select a few members as pre-eminently fit to discuss a certain question to the entire exclusion of all others. Age can be no criterion, as all will agree. Experience, while a better guide, is a qualification the only judge of which is the individual member himself. The bringing into prominence and advancement of one's favorites, irrespective of their abilities or acceptability to those who must listen to them, should be beneath men pledged to help "promote the science and art of medicine." But is it not done? I will leave it to unprejudiced readers if, in a popular and democratic body such as the Academy has become, free and untrammelled debate is not the only just procedure. Whence does the Academy expect to derive its talent in years to come if it continues to exclusively parade its war-horses of debate who have for decades stamped and pawed the floor and tossed about themselves the stifling dust of supremacy.

It must be that among the numerous recently acquired members there are some talented debaters, some men of original ideas, some men with practices and experience far surpassing their reputation.

No one can doubt that such men exist, and common justice should revolt at their neglect and demand the recognition of their rights.

Advocates of the present mode of conducting debate urge as an excuse that unless certain men are especially invited and publicly announced to participate in discussion they will not attend the meeting. To this I would say that if men are not sufficiently interested in the subject under discussion to attend without being cajoled or bribed by public announcement of their assumed superiority, then they had better stay at home.

Again, advocates of cut-and-dried discussion will say that unless debaters are assigned, announced, and called upon, men fond of hearing themselves talk and saying little that is pertinent or instructive will monopolize the floor. If this should result, it would be the fault of the presiding officer and the audience, as it is a duty of the former to stop rambling and irrelevant discussion, and the privilege of the latter to express in many ways their dissatisfaction at mere verbal hypercatharsis.

Another abuse to which the Academy, as well as, I am sorry to say, some other medical organizations is addicted is the aping of sharp political tactics in the conduct of its primaries or meetings for the nomination of officers. By sharp practice the ruling clique prevent the nomination of but one candidate for any office for which they care, thus rendering his election certain. Mind, I don't question the legal right of such action, but I do claim that such practices should be beneath the dignity of physicians.

Men cannot be so foolish as to imagine that where only one nomination is allowed the resulting unavoidable election is unanimous, but they hunger and fight for it just the same, and, having gained, seem satisfied with it. Of much greater honor would be an official position attained after a little healthy competition and friendly rivalry. That other, perhaps greater grievances exist in this august body I don't doubt; but in my unofficial connection with the Academy they have escaped my notice. That abuses calling for protest and rebuke do exist is known to all; but as there seems to be no disinclination, on the part of the rank and file of the Academy to be led by the nose by their self-constituted rulers, there would seem to be little call for this communication except as an individual protest against the prostitution of a public trust to the furtherance of personal ends and the advancement of favorites and cliques.

R. W. AMIDON, M.D.

19 WEST TWENTY-FIRST STREET, January 11, 1892.

MECHANICAL CONTROL OF THE CIRCULATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The excellent practical suggestions of Professor R. H. M. Dawbarn on this subject may possibly call attention to the much-neglected, though, I think, most important, contribution of the present century to practical therapeutics, which I have urged upon my students ever since 1847.

Professor Dawbarn thinks his suggestion an old one, long neglected and "lapsed," but, in fact, it is a small portion of an extensive system of mechanical therapeutics, developed by M. Junod, of Paris, who began his labors in 1833. Dr. Junod was not only highly commended by the Academy of Sciences, but twice received the Monthyon prize. His last grand medical and surgical prize was given in 1870, and a prize of 1,500 francs as late as 1876. A few years later than Dr. Junod, Dr. F. H. Buckler, of Baltimore, struck upon the same principle and published some very striking illustrations of the power of hæmostasis to control the circulation, to overcome pneumonia, and to produce a far greater impression on the circulation than could be produced by bleeding, without any of its deleterious effects.

His experiments were very interesting and convincing. I would mention only one illustration. C. P——, a negro chambermaid, aged twenty-three, robust and tall, and always in good health previously, attended a party, and coming from the hot, crowded room through a cold,

damp atmosphere, without sufficient clothing, she was taken with an icy coldness of the whole body, through the most of the succeeding day, followed at night by "aching and soreness in all her limbs, violent pain in the back, and severe headache." Next day Dr. Buckler saw her, suffering with violent headache, soreness of limbs, great weakness, and slight cough, but no expectoration. His treatment was by blood-letting and antimony, taking on the first day fifteen ounces, on the second twelve ounces, on the third ten ounces, with a little calomel and ipecac. The symptoms of pneumonia progressively developed and went right on toward a fatal result, without the slightest benefit from his treatment. She had no sleep from the beginning; her tongue was white and dry; pulse, 120, and corded; countenance exceedingly anxious, blood with inflammatory buff, bronchophony and bronchial respiration marked, dulness over lower half of left lung behind, and fine crepitation in other parts of it; a coarse bronchus was heard, and the vesicular murmur absent in lower half of left lung.

The patient being unable to sit up, and death apparently impending, the ligatures were then applied on the upper part of each thigh. As soon as they were fastened she complained of weakness and sick stomach. The pulse became softer and less frequent, and the skin relaxed. She complained of numbness in the legs in an hour after the ligatures had been applied, and the limbs were much gorged. The medicine was stopped and the case left to the ligatures alone. They were kept on twelve hours, and during that time she got three hours' sleep, the first sleep since her attack. The pulse was 100, and soft, the skin soft and natural, tongue moist, countenance cheerful and bright, and she said she felt much better. The lung gave better symptoms to auscultation.

The ligatures were renewed, to be kept on until painful. Next day she was better, coughed and expectorated freely. The treatment by ligature was kept up, being once kept on fourteen hours at a time. They kept down the pulse and kept the skin in good condition. She steadily improved without medicine, using only barley-water, and was well on the seventh day after medicine had been dropped to rely on ligatures alone.

This is a synopsis of Dr. Buckler's report of his first application of hæmostasis to pneumonia. His previous experiments on patients were very decisive, showing that in some cases ligatures alone might exhaust the central circulation to the extent of producing fainting.

It is not merely by impairing the force of the circulation that ligatures are successful in controlling hemorrhages and inflammations, but by positively withholding a large amount of blood from the inflamed organs, more than could be produced by the boldest bleeding. When combined with small bleedings the effects were very striking. He showed that a twenty-four ounce bleeding without ligatures is far inferior in effect to a four-ounce bleeding when the patient is subjected to ligatures.

The loss of the mechanical control of the circulation by laying aside the lancet is a serious loss in some few cases, and why the profession has neglected to use this far more powerful agent, which has a really decisive control over hemorrhage and inflammation, cannot be told without impeaching professional wisdom.

But this Buckler method of hæmostasis, powerful as it is when applied on all four limbs, at the shoulders and thighs, is a crude and unsatisfactory method compared to the pneumatic control of the circulation called hæmospasia, which was so triumphantly displayed by Junod for many years, and received the sanction of the highest medical authorities of France, many of whose names are unfamiliar to English readers, but I might mention many names among the supporters of Junod's method which are familiar to all students of medical literature, such as Andral, Bouillaud, Velpeau, Nélaton, Rostan, Ricord, Malgaigne, Louis, Dubois, Baudelocque, Cruveilhier, Trousseau, Piorry, Cazenave, Boyer, Voisin, Rayer, Fouquier, etc.

The methods of Junod were applied successfully by himself and his pupils, not only in inflammations and hemorrhages but to a host of diseases of the respiratory and digestive organs, affections of the heart, head, and nervous system, uterine and urinary diseases, fevers, cholera, rheumatism, gout, and many surgical cases, in all of which its value was demonstrated either as an adjunct to other measures or as the main reliance.

To illustrate his methods, their sound philosophy and practical success, would require quite an essay, but if desired I would take pleasure in giving an exposition of what I deem the greatest contribution of the century to practical therapeutics, and in showing that its application is not forbidden either by the extensiveness or the complexity and difficulties of the apparatus, as many have supposed.

I cannot account for the neglect of Junod's pneumatic methods, except by the aversion of the profession to adapting mechanical methods which are more laborious than writing prescriptions. Over twenty years ago, in consultation with two gentlemen, one the foremost physician of his city, and the other an ex-president of the National Medical Association (in a case of pneumonia) I found that neither of them had ever heard of hæmospasia. Yet attention has recently been given to other pneumatic methods, such, for example, as increased atmospheric pressure, the results of which are but trivial in comparison with the great range of utility developed by Junod and Buckler, and endorsed by the highest authority.

J. R. BUCHANAN, M.D.

KANSAS CITY, January 5, 1892.

INCREASED DUES OF THE ACADEMY OF MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Doubtless many Fellows of the Academy, who were not present at the meeting of December 3d, were surprised to learn from the MEDICAL RECORD that their dues had been doubled. The writer most certainly was, and he thought there must be an error in the report until the mail shortly after brought a bill from the Treasurer for $20. This is the first official intimation that the Fellows of the Academy have received of an increase in the dues, and it looks very much as though the notice had been intentionally withheld until it was too late to avoid payment for the current year. The members should have been notified in December, immediately after the passage of the amendment, so that those who felt that they could not afford to pay the extra tax could have had an opportunity to resign. It is not the increase against which I desire to protest, for the Academy has a right to make the dues as high as it pleases, and it was doubtless necessary to raise them; but the withholding of any information concerning it from the members seems to me to savor of a "sharp trick" that does not reflect any honor upon the officers responsible for it.

AN IMPECUNIOUS FELLOW.

Quacks and Reciprocity.—One of the provisions of the reciprocity negotiations with the island of Jamaica is that there shall be no duties levied on patent medicines imported from this country.

A Big Baby.—Dr. Florentin Ortega reports in the *Nouvelles Archives d Obstétrique et de Gynécologie* for October, 1891, a case of a large still-born infant. It was 2 feet 3½ inches tall, 7½ inches broad across the shoulders, and weighed 23½ pounds. The mother was a primipara, twenty-three years of age. The exact duration of the pregnancy was not known.

How much Ought a Small City to Pay Its Health Officer?—Two thousand dollars a year, says Dr. Henry B. Baker, Secretary of the Michigan State Board of Health.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 9, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	211	34
Cerebro-spinal meningitis	1	3
Measles	156	16
Diphtheria	121	39
Small-pox	0	0
Varicella	18	0
Pertussis	0	8
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

What was the Doctor to Do?—The *Medical Times* says that a perplexing suit has been commenced in Paris. A suburban practitioner, called to attend a patient suffering from scarlet fever, advised the landlord to disinfect the house. This was done, and the landlord sued the patient to recover the cost. The latter thereupon sued the doctor for breach of professional secrecy, and it is thought he will win his case.

Pure Drinking-water on Shipboard.—*The Lancet* says that attention has lately been directed to the impurity of much of the water used on board ships at sea, and the consequent prevalence among sailors of such characteristic diseases as dysentery, typhoid fever, and cholera, and adds that there is reason to believe that the grievance is no imaginary one, and that certainly its importance cannot be over-estimated. It urges the necessity of a careful examination of the condition and contents of all water-tanks and barrels being made before a ship starts on a voyage, and goes on to say: "A supply of such purifying agents as alum and charcoal should not be omitted, since by means of these, by boiling and by distillation, faulty water, if no better be procurable, may often be made drinkable. Better still, and much more convenient in use, would be one or more ship's filters of large size. The scandal of disease arising on shipboard from a cause so easily preventable demands, at least, the adoption of these necessary preventive measures."

Coffee and Cholera.—It is some time since a Dutch physiologist announced it as his discovery that coffee is a germicide—a sure killer of the cholera bacillus in a few hours. It is now reported from North Bhangulpur, in Bengal, that the coffee remedy for cholera is being put into practice there with astonishing success.—*Western Druggist.*

A Medico-legal Congress is to be held in Rome in September, 1892. It is said that the science of medical jurisprudence is greatly neglected in Italy, except by a few well-known and justly celebrated specialists.

A Suitable Vehicle for the Administration of Medicines.—A Philadelphia physician was called by a foreign family, and prescribed one pill to be taken three times a day in any convenient vehicle. The family looked into the dictionary to get the meaning of the prescription. They got on well enough as far as the word "vehicle." To this they found "cart, wagon, carriage, wheel-barrow." After a grave consideration they came to the conclusion that the doctor meant that the patient should ride out, and while in the vehicle he should take the pill. The supposed advice was followed to the very letter, and in the course of a few weeks the fresh air taken so regularly completely cured the patient.—*Medical Times.*

The Plague in London.—Among the items of interest in a volume on the "Population and Growth of the City of London," recently issued by the London Corporation, are extracts from the bills of mortality which were first published by the Ancient Company of Parish Clerkes in 1592. From these, some idea of the awful ravages of the plague may be gathered. In 1603, 30,561 persons died of it in 147 parishes of London, Westminster, and Southwark; in 1625, 35,417 persons; and in 1665, the year of the "Great Plague," 68,596; the population of London then, as ascertained by the rough and ready method at that time adopted, being well within half a million.—*British Medical Journal.*

Novelty at the Chicago Exhibition.—The forthcoming "World's Fair" at Chicago is to be graced by a novelty which is in process of manufacture by a Pittsburg medical man. This consists of an immense papier-mâché model of the human heart. It will be three feet in diameter. We trust that precautions will be adopted to prevent the left ventricle of this model from being mistaken for a retiring-room.—*Medical Press.*

A Hardy Sceptic.—Dr. H. W. Middendorp, of Groningen, Holland, has never accepted the theory of the bacillary origin of tuberculosis. He has recently published a pamphlet entitled, "New Studies Concerning the Tubercle Bacilli which Professor R. Koch claims to have discovered, but which do not Exist; the Falsity of his Doctrine of the Etiology of Tuberculosis, and the Uselessness and Dangers of his New Mode of Treatment."

A Full Bladder.—Dr. Williams relates a remarkable case in the *Lancet* of October 31, 1891, where 205 fluid ounces of urine were withdrawn from the bladder of a man who did not know his bladder was full, although it extended to within an inch and a half of the xiphoid cartilage. This case shows that it is never safe to perform paracentesis abdominalis without first ascertaining that the bladder is not the cause of a wave of fluid on percussion.

One Breast or Two.—In a recent number of the *Lyon Medical*, Sabaitie referred to some observations he had made upon the mortality of infants nursed by women who for some reason used only one breast. He found that the death-rate is much higher in these cases than in those where both breasts were employed. In thirty-two of the former, among hospital patients, the infantile mortality was forty-eight per cent.; in the same number of the latter, under similar circumstances, the mortality was but twenty-eight per cent.—*Medical Press.*

Teetotal Tyranny.—A most extraordinary condition of things seems to prevail at the Plymouth Workhouse Infirmary, where some crazy teetotallers, dressed in a little brief authority, have ordained that patients are under no circumstances to be given spirits. The result was that last week a poor body succumbed to an attack of syncope, whose life, the medical officer opines, might have been indefinitely prolonged by the judicious exhibition of a little alcohol. We see no reason to question the validity of his surmise, and must express surprise and regret that such inhumanity should be shown in the treatment of the sick poor.—*Medical Press.*

A Hard Condition.—A London physician, who advertises in the daily papers that his medicines are powerful, not poisonous, but pleasant to the palate, lays down as a necessary condition for his women patients that they leave their corsets at home. He is said to have quite a large female clientèle nevertheless.

Menstruation and the Larynx.—Dr. von Klein says that it is possible to tell when a female singer is menstruating by the fact that her voice is lower in tone than usual.

A New Institution with a Big Name is the Kaiser-und-Kaiserin-Friedrich-Kinder-Krankenhaus, in Berlin.

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THE CEREBRAL ATROPHIES OF CHILDHOOD.

WITH SPECIAL REFERENCE TO THE OPERATION OF CRANIOTOMY FOR IMBECILITY, EPILEPSY, AND PARALYSIS.

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THE medical treatment of imbecility, epilepsy, and hemiplegia occurring in childhood is so hopeless, that the recent proposal to invoke the aid of surgery in these cases has excited much interest. The public, as well as the medical profession, is anxious to learn how far success may be looked for from craniotomy, and to obtain facts upon which to decide the question of operative treatment. To neurologists the subject is of immediate importance, for they must be responsible for advising or opposing this method of treatment.

It is with a view of getting at the facts necessary to come to a positive conclusion that this article is undertaken, and it will be my aim in stating the facts to maintain an impartial position. In studying the question of operating for brain-tumors in childhood, it was found to be of advantage to collect a large number of cases;[1] to review their pathology, and to determine what percentage might have been successfully treated by surgeons; and the same method has been followed in the preparation of this article.

Craniotomy, or the operation of producing an opening in the skull of some extent, with the object of relieving pressure on the brain, or in some unknown manner of stimulating its development, has been proposed and performed in a number of cases.

These cases present certain clinical features, and may easily be divided into three general groups: First, cases of hemiplegia with or without athetosis. Secondly, cases of mental defects of various grades. Thirdly, cases of sensory defect of different types. Epileptiform seizures of *petit mal* or of *grand mal* type occur frequently in patients who may be assigned to any one of these groups, and may be the particular symptom in regard to which advice is sought. The subject therefore includes the question of trephining in organic epilepsy in childhood.

I. Infantile cerebral hemiplegia has been studied so carefully of late, and so much has been written upon it, that no elaborate description of the first class of cases is needed. The symptoms are the sudden development of a unilateral paralysis after a series of convulsions attended by high fever and its attendant discomforts, and a period of unconsciousness of varying duration; then a gradual improvement in the paralysis after the active manifestations of the onset have subsided; and finally, a stationary condition, in which the face is but slightly affected in its voluntary or automatic movements; the speech is usually regained, if it had been lost; the arm is quite seriously paralyzed, the fingers being stiff and awkward, and sometimes being in constant slow involuntary motion (athetosis); the leg is held rather rigid, so that the child limps in walking, and sometimes has a club-foot. There are, of course, on the one hand light cases in which the symptoms finally amount merely to clumsiness in the fingers. There are, on the other hand, severe cases in which a double hemiplegia has occurred, both halves of the body being equally affected, and in which both arms are useless and both legs so stiff, so closely adducted, and so helpless that walking is impossible. These latter are cases in which all the symptoms date from birth, the birth palsies of Gowers. In all cases the paralyzed limbs are found to be affected in their growth and development, so that they are smaller, colder, stiffer, and weaker than the others; the reflexes are exaggerated, but the electrical reactions are not qualitatively changed, and the sensation is normal. This condition remains through life as a permanent defect, and although the division of contractured muscles or tendons, and the application of ingenious apparatus, may correct deformities and make the paralyzed parts fairly useful, and although the application of electricity to the muscles chiefly affected may increase their nutrition and thus prevent contractures which come from the unbalanced strain between the various muscles, yet any great degree of improvement is impossible. In more than one-half of these cases epileptic attacks are of frequent occurrence.

These cases are so common that it seems needless to cite illustrative examples. In the well-known monograph of Osler on the "Cerebral Palsies of Children," the most complete description of the varieties of the affection is to be found. In the history of one of my cases, operated upon by Dr. McBurney—which will be given later in this article—the ordinary course of the symptoms may be studied.

The chief clinical facts of importance in such cases are the time and character of the onset, the degree of spontaneous recovery, and the question whether the epilepsy is of so severe a type as to be dangerous.

The cases which date from birth must be divided into those in which there has been evidence of traumatism during labor, and those in which there was nothing about the delivery sufficiently unusual to awake the suspicion of trauma. In the former class it may be stated confidently that cerebral hemorrhage, usually meningeal, is the cause of the symptoms. In the latter class it is probable that an intra-uterine encephalitis, or some unknown cause, has prevented the fœtal brain from developing. I know of no positive means of differentiating these two sets of cases. The cases which have developed suddenly after birth are cases in which the ordinary causes of hemiplegia in adults have been acting, and, as Ashby has shown, must be traced either to encephalitis, hemorrhage, or embolism, or disease of the vessels. The degree of spontaneous recovery in any case can be pretty well determined by an examination at the end of the second year. It is evident that a complete cure never occurs.

The fits in organic epilepsy are more likely to be frequent and severe than in idiopathic epilepsy. I have one patient who has had as many as twenty convulsions daily for weeks at a time. These fits do not destroy life, but of course render life a burden, and almost any means for their relief is justifiable. When, however, they are infrequent they may be benefited to some degree by the use of bromides.

II. The second class of cases presents mental defects rather than physical symptoms. The child may be slow in learning to talk, may seem unable to fix its attention upon anything continuously, may be exceedingly active,

[1] Tumors of the Brain in Childhood, with Special Reference to Surgical Treatment. Medical News, January 12, 1889.

in constant motion—the activity being, however, aimless; may throw things about, or tear things up, or put everything into its mouth; may be very difficult to manage because of its inability to retain and combine impressions with sufficient power to reason upon them; and may therefore be incapable of appreciating the meaning of punishment, if this be inflicted. Such children may have good powers of perception, may recognize persons and objects, show pleasure at bright colors, or music, or caresses, but fail to show evidence of thought in the sense of reasoning power, judgment, or self-control. Some patients constantly drule at the mouth, cannot be taught cleanly habits, and are manifestly imbecile. Other patients are quite bright in many directions, may even be precocious, show talents in music, or drawing, or fondness for mathematics, designing, languages; yet are apparently unable to appreciate moral ideas, cannot be taught to tell the truth, are cruel and bad, will not control any of their impulses, and so are the distress and despair of parents and teachers. It is those mental qualities which are the product of the highest evolution, which have failed to develop in this class of cases. The final result is that they have to be taken care of all their lives, either at home or by attendants, being incapable of supporting themselves or directing their conduct. Many of them have epilepsy. One or two examples may be cited.

G. M——, now twenty-one years of age, has the appearance and manner of a boy of fourteen. His head is small and narrow; forehead retreating; face small, and expression stupid. He has always been a feeble-minded boy, never able to study long or to learn anything difficult, so that he is about on the level of a boy of ten in his education; and now, as he is becoming to some extent sensible of his defects, he is very moody, quiet, and retiring. He has always been hard to manage and prone to outbursts of temper, and in the past five years this irritability is increasing. He has also peculiar attacks. In an attack he is very restless, wanders about in an aimless way, hides or destroys anything he can lay his hands upon, and becomes much excited, angry, and even abusive and violent if opposed. Such attacks last for three or four hours, during which it is necessary to watch him. After the attack is over he has no recollection of what has occurred, or of what he has done. He has many symptoms of neurasthenia, probably due in part to self-abuse. He has no paralysis or defect of sensory power. He is able to read, write, play on the violin, and sketch, but cannot be employed upon anything for any length of time, and therefore is a burden to his family.

I have three cases now under observation of children aged between three and five, who are apparently bright, and capable of hearing and seeing properly, but who show no evidence of any desire or ability to learn to talk. They make crowing sounds of no special meaning, but any distinct articulation is never made, and attempts to teach them seem unavailing. All three are restless, active children, easily attracted by interesting things, but incapable of fixing the attention long on anything. They are usually in constant motion, running about, working with the hands, and cannot be quieted long. They appear to understand perfectly what is said to them, will do various things at command, notice music and noises, yet are as mute as though perfectly deaf. They present a fair degree of intelligence, though two of them are still unable to be taught to make any sign of desire to urinate, and hence are dirty. Yet to watch these children at play at home, one would not suspect any mental weakness, and were it not for the speechlessness the parents would not have suspected any defect. None have epilepsy as yet.

A little girl of eleven was brought to me recently on account of attacks of *petit mal* which had developed within two years, and had become so frequent as to occur every hour. Two such attacks occurred in my office, each lasting twenty seconds, consisting of a sudden dilatation of the pupils, relaxation of facial expression, turning of the eyes upward, falling backward of the head, and then recovery of balance just as she was about to fall. She was completely unconscious in the attack, had no warning of its onset, and no recollection of its occurrence. Slight stimulation of the surface anywhere—pinching, throwing water in the face, seemed enough to arrest the attack, though loud sounds had no such effect. This child was well developed, and very observant and active, but had no capacity for learning or for self-control. She had been trained with care, but could not read, and acted on every impulse. She was excitable, very quick in replies, impudent and saucy, delighting in doing everything which would annoy people, and it was impossible by punishment to effect any moral improvement. This defect of intelligence was associated by a very marked defect in the development of the fore-part of her head. There appeared to have been a very early union of the coronal suture, so that a decided depression existed in the skull over its situation, and a marked difference could be seen between the size of the frontal bone and the posterior part of the skull. It looked as if a cap had been applied over the entire frontal bone which had arrested its growth, while the rest of the skull had developed properly. The arch of the palate was high. In this case I advised an operation.

III. The third class of cases is less common than the two preceding, and is likely to escape observation unless carefully investigated. The patients belonging to this class present no motor or mental defects, though they may be the subjects of epilepsy. They do have defects of sensory perception. It is probable that many cases of deaf-mutism belong to this class. Rheinhardt has described a case in which permanent deafness was due to manifest defects in the temporal convolutions of both sides. Dr. Donaldson has noticed a marked deficiency of development in the temporal and occipital convolutions of Laura Bridgman, who was both deaf and blind. The following case presents so many interesting features that I give the history in full:

The girl, who is now twelve years of age, has suffered all her life from frequent attacks of *petit mal* and occasional attacks of *grand mal*, usually preceded by an epigastric aura, never by a visual aura, and her convulsions are general, never unilateral, in character. She has had from two to six attacks of *petit mal* daily, and *grand mal* attacks once a week, though at present, after a year of treatment by bromides, she has but three or four attacks of *petit mal* every week, and has had no *grand mal* attacks for ten months. Her case, therefore, presents the features of an ordinary epilepsy.

But upon investigation it was found that she had a slight divergent squint, and a left bilateral homonymous hemianopsia, the visual fields in the eyes being much diminished, not exactly symmetrically, as the diagram (Fig. 1) shows, and the field of vision extending ten degrees beyond the fixation point in both eyes, while its periphery was slightly contracted even in the clear field. This condition had never been discovered until the child was eleven years of age, although from her infancy her mother had noticed that she habitually held her head toward the left side and looked at objects with her head turned somewhat to the left, as she does now. An examination by Dr. Webster for the purpose of correcting the squint, led to the discovery of the partial blindness. The child is quite sure that she has always seen as she does now, that she has never been able to see objects approaching her from the left side. This she supposed to be natural. This fact is of some interest, as it confirms what has been stated before, that hemianopsia may remain undetected for years, or if noticed by a patient is supposed to be a blindness in the eye whose visual field is chiefly contracted.

When a cause for this symptom was sought, it was ascertained from the mother that the child had been delivered with much difficulty, that the labor was prolonged, that the head was greatly misshapen at birth, and had a large caput succedaneum over the posterior part. When the child's head was inspected, it was found that over the right

occipital region there was a very perceptible flattening of the skull, so that the vertical parting of her hair was uniformly deflected to the right. The difference between the two sides was easily noticeable on looking down upon the head from above, or by the aid of touch. It seems reasonable to suppose that this little girl has a defective development of the right occipital lobe of the brain, and that this involves the cortex and also the subcortical tract, since Wilbrand has shown with much reason that a purely cortical lesion produces symmetrical defects in the visual field, while subcortical lesions produce asymmetrical defects. The pupils respond to light thrown upon the blind field of the retina, hence the lesion is not in the optic tract. There has never been any hemianæsthesia or hemiplegia, hence the lesion is not in the thalamus or near the internal capsule.

Peterson and Fisher have shown that cerebral atrophy in infants in the motor area is followed by an asymmetrical development of the skull, the depression in the skull lying over the atrophic part of the brain. Here there is present such a depression, or rather lack of convexity, over the occipital lobe to whose deficient development the symptom of blindness points.

When, therefore, this patient presented herself for treatment for epilepsy, it became evident that she belonged to the class of cases in which the epilepsy was due to the organic disease or defect in the brain.

It is interesting to note that a certain improvement in her condition—a marked diminution in the number of fits—has occurred under the influence of bromide; but this has also been noticed in cases of epilepsy with hemiplegia of infantile origin.

The important question to decide in this case is in regard to the possibility of any surgical interference. The history certainly points to the occurrence of great congestion of the head during delivery, and the brain injury may reasonably be ascribed to a hemorrhage upon or in the occipital lobe. Such a hemorrhage compressing the lobe would prevent its growth, would finally be absorbed, leaving probably only a connective-tissue plaque or membrane. Now, it is known that brain-growth proceeds until the age of fourteen or thereabouts, and the question arises whether removal of this plaque would allow this brain to develop. It is hardly supposed that vision would be improved, but might not the epilepsy be benefited? As in the cases of hemiplegia and of mental defect, the question becomes a pressing one, involving the future of the individual.

This case is not a unique one. Moeli has recently published (*Arch. für Psych*, xxii., 2) three cases of hemianopsia due to defective development of the occipital lobe with porencephalus or great hydrocephalus, found in adults, one at least of whom had epilepsy. In all the affection must have dated from infancy. In none of these would an operation have been feasible, in fact in all secondary degeneration had developed even into the optic tracts. Henschen records two cases of infantile hemiplegia in which hemianopsia was found ("Pathol. des Gehirns," cases 32, 33); and Freund (*Wien. Med. Woch.*, 1888, No. 32) also records two such cases. It is probable that the symptom has escaped detection in some cases of infantile hemiplegia from lack of examination.

It is evident, then, that three separable types of clinical cases of cerebral disease exist, any one of which may be accompanied by epilepsy. It is of course possible that one case may present the symptoms of all the various types, and in fact there are many patients who present both mental defects, hemiplegia and sensory defects, as in a case to be described later, on which an operation was performed. One of these varying sets of symptoms, however, is usually more prominent than others, and hence it is hardly necessary to establish a fourth type including all such anomalous cases.

When a patient belonging to one of these clinical types is presented to the neurologist and the question is asked, Can surgical treatment benefit him? it is evident that a serious problem is opened. In these cases the disease is at a standstill and does not threaten life; surgical treatment is not free from danger, and the brain is still capable of great development. Can such development be aided by an operation? In many cases the epileptic attacks are of such frequent occurrence that any risk might well be taken if they could be surely stopped.

Any solution of the problem of operative treatment must be based upon two considerations: I. The pathology of the cases. The results of experience when such operations have been done.

I. **The Pathology of these Clinical Types.**—Records of the pathological condition found in all the three classes of cases described are now accessible, collections of cases with autopsies having been made by numerous writers.

The lesions found are various in type, in origin, and in situation, but a careful study elicits two facts: First, that the difference in the clinical types is due to the varying situation of the lesion rather than to its varying nature. Secondly, that the various processes of disease have, as a fairly uniform result, a condition of atrophy with sclerosis of the brain, which we may term sclerotic atrophy.

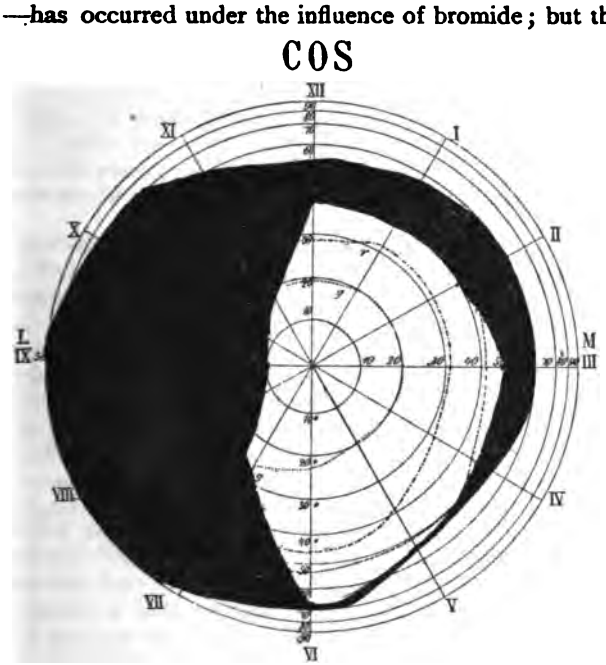

FIG. 1.—Vision = $^{20}/_{70}$

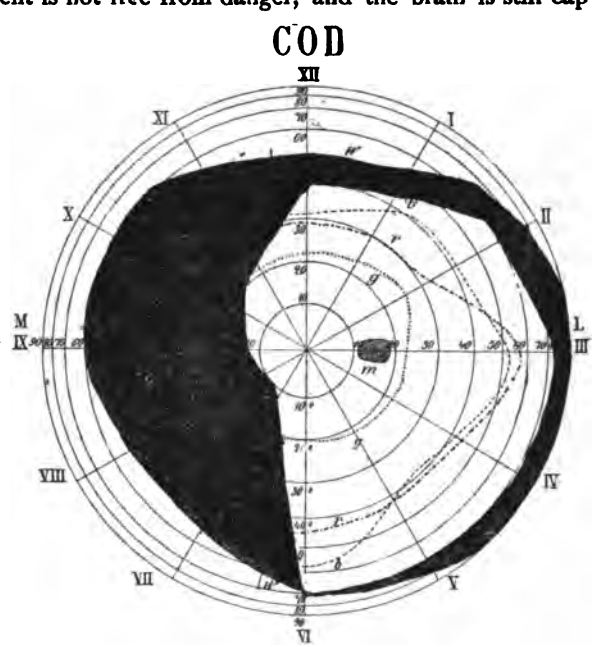

FIG. 2.—Vision = $^{20}/_{30}$.

Visual Field in a Case of Congenital Left Hemianopsia.

1. In the clinical cases of our first type the sclerotic atrophy involves the motor area of the brain, *i.e.*, the central convolutions bordering the fissure of Rolando and the cortex of their immediate vicinity, and involves also the motor tract arising from this part of the cortex, and usually the basal ganglia as well. In the clinical cases of our second type the sclerotic atrophy involves the anterior portion of the brain, and sometimes the entire hemisphere to a greater or less extent. In the clinical cases of our third type the sclerotic atrophy involves the posterior and lateral parts of the hemispheres. It is not surprising that the variation in the situation should produce varying symptoms, in view of the facts of the localization of brain-functions now known. That there should be a limitation of the sclerotic atrophy to certain lobes or regions—to the frontal, or central, or occipital or parieto-temporal regions—in various cases, has led to the hypothesis that the origin of the disease lay in some interference with the blood-supply of the part, since it has often been evident that the atrophy was limited to the region nourished by blood reaching it through one arterial trunk. And this hypothesis has been supposed to explain the pathogenesis of these cases. Yet its weak point is the fact that at the autopsies the vessels usually show no evidences of disease or of plugging, and the infrequency of vascular lesions in infancy cannot be denied. Schultze is doubtless right in this matter in saying that the pathogenesis of these defects is as yet quite obscure.

2. It has been stated that the various processes of disease have, as a uniform result, a condition of sclerotic atrophy.

This fact is borne out by the following *résumé* of results in 343 cases:[1]

Porencephalus, a localized atrophy or agenesis, leaving a cavity in the cerebral hemisphere, which may be deep enough to open into the ventricle, 132 cases.

Sclerotic atrophy, an atrophic condition of the brain with an increase of connective tissue and disappearance of the nervous elements; affecting both hemispheres, or one only, or a part of one only; or limited to small areas in various parts, 97 cases.

Maldevelopment and apparent atrophic condition of the minute structures of the hemisphere, chiefly cortical, the cells resembling those of a new born child, but with no apparent gross defects in the brain, 32 cases.

Atrophy, consequent upon the condition of softening produced by embolism or thrombosis, and limited in extent to certain arterial districts of the brain, 23 cases.

Meningo encephalitis, a condition shown by thickening and adhesion between the pia and the brain, with destruction of the cerebral cells and atrophy of the cortex, 21 cases.

Cysts lying on the brain and producing atrophy by pressure, or associated with atrophy due to the original lesion of which the cyst remains as a trace, 14 cases.

Hemorrhage on, or in, the brain, as shown by the remains of a clot, or by hematin staining of a cyst, of the pia, or of the sclerotic tissue, 18 cases.

Hydrocephalus with extreme dilatation of the ventricles, so that the brain-tissue is reduced to a mere wall about the cavity. 5 cases.

Unilateral hydrocephalus, 1 case.

These are the conditions found at death in cases presenting the clinical features just studied. It is evident that they have this in common, namely, a condition of atrophy of the brain. The origin of this atrophy is not always clear. In some cases it is clearly congenital and due to a maldevelopment of the embryo. In other cases it is clearly traceable to injuries at birth. Again in other cases it must be ascribed to affections of various kinds, such as inflammations of the membranes, or of the brain-substance, or vascular lesions and their consequences, such as occur in adults.

It is not always possible, in a given case, to determine clinically the origin of the disease. For the absence of a history of trauma at delivery does not exclude necessarily a congenital lesion. And the existence of certain symptoms in acquired cases does not always enable one to determine between an inflammatory process and a vascular lesion. Thus fever of long duration and great severity is as likely to occur in hemorrhage or embolism as in meningo-encephalitis in infants.

Nor are authorities by any means agreed as to the nature of the original pathological process of which the atrophy is the result. Wallenburg found evidences of embolism in 7 cases, and of hemorrhage in 5 cases. Osler ascribes these causes to 16 cases in his collection. Ashby describes thrombosis in 3 cases, one of them due to syphilitic endarteritis, a very rare disease in infancy. McNutt found meningeal hemorrhage in 12 cases. Gowers ascribes some of the birth palsies to thromboses of the venous sinuses. Kundrat has recently affirmed that a laceration of the veins entering the sinus is a sufficient cause for hemorrhages during delivery.

Henoch, Oliver, Sachs, Hirt, and others, have described a condition of meningo-encephalitis as present in these cases, and Wallenburg considered this the primary condition in 14 cases of his collection. Strumpell's theory of an inflammation limited to the gray cortex has been discarded from lack of evidence. Thus it is evident that diseased states of the blood-vessels, their rupture or their plugging, or inflammatory conditions of the meninges or brain, may be the primary conditions in many cases of sclerotic atrophy and of porencephalus; conditions which vary very widely, and which it is often impossible, clinically, to distinguish from each other. It is also evident that in quite a proportion of cases the origin of the atrophy must be a maldevelopment, whose real reason is wholly obscure.

From this review it is apparent that many of the conditions are of such a nature as to be wholly unaffected by an operative interference. A porencephalic cavity, filled with cerebro-spinal fluid, is not likely to be benefited by any enlargement of the intra-cranial space, or by the abstraction of the fluid. In several cases operated upon the withdrawal of this fluid has been followed by sudden collapse and death.[1] On the other hand, there are conditions, such as maldevelopment of the cortex without gross lesion, in which it is possible that anything which may stimulate latent powers of growth, or may remove those influences which interfere with development, might result in improvement. It is to be remembered that the brain is capable of growth and development until the age of fourteen, if not longer, and granting that a stimulus to its growth may be given during childhood, that the arrest of development in many cases might perhaps have been prevented.

The study of the pathological condition therefore does not absolutely contra-indicate the operative interference, although it makes it clear that the lesion in the majority of the cases is one which cannot be improved by any means. If we admit that porencephalus, atrophy from vascular lesion, meningo-encephalitis, and hydrocephalus are incurable, and that hemorrhages cannot be diagnosticated early enough to warrant the removal of the clot before it has caused atrophy from pressure, we have 193 cases out of 343 in which operation would have been futile. This leaves 150 cases of sclerotic atrophy, maldevelopment of the cortex, and cysts, in which it is barely possible that an operation, if it relieved pressure, or stimulated brain-growth, might have had some effect. It is only by the latter hypothesis that the apparent improvement in certain cases can be explained.

[1] This number of cases has been gathered from the records of Kundrat, Audry, Wallenburg, Osler, Wilmarth, Feer, Henoch, Hirt, Fowler, Schultze, Sachs, Richardière, Bourneville, Fisher, and from the American and foreign journals of the past three years, duplicates being sought and excluded.

[1] Cases of Bullard: Boston Medical and Surgical Journal, February 16, 1888. Hammond: New York Medical Journal, August 12, 1890.

The unfortunate fact remains that it is impossible to ascertain the actual pathological condition present without an exploratory operation, as no clinical facts are at our disposal to enable a pathological diagnosis to be made.

A suggestion is here offered incidentally, that when operation is undertaken the surgeon, before opening the dura should, by manipulation or by exploration with a hypodermic needle, ascertain if possible whether a cavity in the brain exists beneath the opening in the skull, and if so avoid opening the dura lest the evacuation of this cavity result in death.

II. **The Results of Experience.**—Let us review lastly the results of the experience of surgeons in the treatment of these cases by operation.

The operation of craniectomy has been done by many surgeons during the past three years, and the results have been reported by several of them, notably by Lannelongue, Keen, Bullard, Oppenheim, Frank, Hammond, Horsley, and Agnew. Many other operators have reported single cases.[1]

The accompanying table of twenty-three cases gives the name of the operators, the journal in which the report is given, the age of the patient, the symptoms for which operation was done, the condition found at the operation, and the result, with the time which had elapsed before the result was reported. Lannelongue's cases are not included in the list. He stated at the French Congress of Surgery in Paris, in April, 1891, that he had operated twenty-five times with but one fatal result, and remarked in general terms that the patients—who were chiefly microcephalic infants or epileptic children—improved after the operation. As more precise facts are needed these cases are excluded from the table.

Table of Cases of Craniotomy in Children.

Reporter.	Condition for which Operation was Performed.	Age (Years).	Condition Found.	Result.	Time of report after Operation.
Bradford and Bullard: Boston Surgical and Medical Journal, February, 1888.	Hemiplegia; imbecility	4½	Porencephalus	Death from shock in twenty-four hours.	
Frank: American Journal of the Medical Sciences, January, 1890.	Double hemiplegia; imbecility	6	Dura thick; brain normal.	Death from shock in three days.	
Bartlett: Hahnemann Monthly, May, 1890	Hemiplegia; imbecility; epilepsy.	16	Atrophy of motor area	Recovery from operation	10 days.
Oppenheim: Deutsche Medicinische Wochenschrift, May, 1890.	Hemiplegia; epilepsy	12	Cyst and atrophy of the brain.	Paralysis improved, fits less frequent.	2 months.
Hammond: New York Medical Journal, August, 1890.	Hemiplegia; imbecility; epilepsy.	19	Meningitis: porencephalus.	Death from shock in five days.	
Trimble: Medical News, January, 1891	Idiot; had never walked; microcephalus.	3	Dura not opened.	Some improvement.	1 month.
Wyeth: New York Medical Record, February, 1891.	Imbecility; microcephalus	11 mo.	Dura not opened.	"Surprising improvement"	1 month.
Anger: Progrès Médical, April, 1891	Imbecility; microcephalus; epilepsy.	8	Dura not opened.	Improvement.	
Maunoury: Progrès Médical, April, 1891	Microcephalus; epilepsy; idiocy.	2	Dura not opened.	Death in twenty hours from shock.	
Maunoury: Progrès Médical, April, 1891	Double hemiplegia; athetosis; epilepsy; idiocy.	4	Dura not opened.	Improved for three months, then all symptoms returned.	5 months.
Heurtaux: Progrès Médical, April, 1891	Microcephalus; epilepsy	5½ mo.	Dura not opened.	Death from exhaustion in five weeks.	
Keen: American Journal of the Medical Sciences, June, 1891.	Imbecility; microcephalus; epilepsy.	4½	Dura not opened.	No marked improvement. Second operation three months later; no change.	5 months.
Keen: Loc. cit	Imbecility; microcephalus	1½	Dura not opened.	No improvement. Second operation three months later; no change.	5 months.
Keen: Loc. cit	Imbecility; microcephalus	1½	Dura not opened.	Death from shock in one hour.	
Gerster and Sachs, reported by Keen: Loc. cit.	Imbecility; microcephalus; epilepsy.	4½	Dura not opened.	Death from shock in three hours.	
McClintock, reported by Keen: Loc. cit	Idiocy; hemiplegia; blindness	3½	Dura not opened.	Improved. "Paralysis almost disappeared."	1 month.
Horsley: British Medical Journal, September, 1891.	Idiocy; microcephalus	3	Dura not opened.	Some improvement.	
Horsley: Loc. cit	Imbecility; microcephalus; epilepsy.	7	Bone thick; dura not opened	Death from fever on second day; brain normal.	
Willard, reported by Agnew: Univ. Medical Magazine, October, 1891.	Imbecility; athetosis	5	Dura not opened; porencephalus found at autopsy.	Death on third day from scarlet fever.	
Morrison, reported by Agnew: Loc. cit	Imbecility	2½	Dura not opened.	Improved.	
Hammond: Medical News, October, 1891	Aphasia; traumatism; epilepsy	3	Bone thickened; dura not opened.	Cure of aphasia and of epilepsy.	2 years.
Hammond: Loc. cit	Hemiplegia; traumatism; epilepsy at eight years of age.	38	Cyst; atrophy of brain	Death in fifty days from exhaustion.	
Fisher: Medical News, November, 1891	Insanity; epilepsy; trauma at two years of age.	30	Depressed bone; brain normal.	Fits at first fewer; later, no improvement.	2 months.
McBurney and Starr	Hemiplegia; epilepsy.	6	Brain normal	Improvement very marked	9 months.
Hartley and Starr	Imbecility; epilepsy; hemiplegia; aphasia.	7	Brain normal	Improvement in paralysis and aphasia; fits, same.	6 months.

It will be noticed that of 23 cases 8 died. This demonstrates that the operation of trephining is a more serious one in childhood than in adult life. Death has been due in 6 cases to shock from sudden evacuation of cerebro-spinal fluid, or from the severity and length of the operation, and under these circumstances it has occurred within a few hours or days of the operation. In two cases it has been due to exhaustion, and has not taken place within a month of the operation. This is a much greater mortality than occurred in Lannelongue's experience.

Two criticisms must be offered upon the reports of this class of operations. First, they are considered too exclusively from a surgical standpoint, and recovery from the operation may often be misconstrued as recovery from the original condition. Secondly, they are reported too soon after the operation to warrant any very positive statements regarding its permanent effects. In some cases the paralysis has been markedly relieved. In some cases the epileptic attacks have been said to be diminished in frequency and severity, or have been modified in character; but when the undoubted fact is admitted that any operation may modify the course of epilepsy [1] such statements must be subjected to the test of long observation. It will be noticed that Maunoury reports an improvement for three months followed by return of the symptoms. In some cases a marked improvement in the mental condition has been reported, but here it is to be remembered that education and training will do much, and have been attempted perhaps more thoroughly after than before the operation. It is very desirable, therefore, that the medical reports in such cases should be more complete. A careful study of about fifty cases of operation already recorded has not enabled me to reach any conclusion as to the final success or failure in any one case. It is as yet too soon to make a positive statement.

As a further contribution to this subject the two following cases are reported:

[1] For a discussion of the methods and dangers, Dr. Keen's able paper in the American Journal of the Medical Sciences, June, 1891, may be consulted.

[1] See Dr. J. William White on the supposed curative effects of operations per se, Annals of Surgery, August and September, 1891.

CASE I. *Hemiplegia, Epilepsy, Mental Weakness—Trephining — Improvement.* — E. H——, now[1] seven years of age, was born without difficulty, and was a healthy baby until five months, when she was suddenly seized with general convulsions attended by high fever and followed by left hemiplegia. For three weeks the temperature varied from 100° F. to 105° F., and convulsions recurred from time to time, the child being unconscious almost all the time and being kept alive with difficulty. Then a gradual recovery began which had continued till the sixth year, when I saw her. She was still markedly hemiplegic on the left side, the face was noticeably affected when she made voluntary grimaces; the arm was moved fairly well, but the hand was useless and the fingers were in constant slow motion of flexion and extension, these athetoses being much increased by any effort with the other hand; the leg was moved well, though she drags the foot a little in walking, and the ankle was quite rigid but not deformed, there being a tendency to talipes equinus. The paralyzed limbs were smaller than the others, but sensation was normal and electrical reactions were but slightly less than on the other side, there being no qualitative change of reaction. Ever since the onset of the hemiplegia she had been subject to attacks of an epileptic character. She had numerous slight attacks daily, lasting a few seconds, in which she seemed alarmed, ran to and grasped someone, saying she felt sick. Since the age of five she has had severe attacks, chiefly at night, in which she cries out and has a short general convulsion, usually more marked on the left side, without biting the tongue or passage of urine. After such attacks she sometimes sleeps, sometimes goes on playing. In the past six months she had also had two very severe attacks of unilateral convulsions, there being a series in each attack. In these the spasm was first limited to the left face, the eyes turning to the left; then to face and arm, then to face, arm, and leg, extending in this order, and finally the entire left half of the body was invaded in each spasm. Each spasm lasted about six minutes, the series lasting an hour and a half, and she was unconscious throughout. After these two attacks she was quite weak for a day or two, and the hemiplegia was more marked and the athetosis was perceptibly less.

She had been petted much, and her parents think this is one cause of her being very fretful, irritable, hard to manage, and difficult to teach. The fact is, that the child was deficient in the power of self-control and of voluntary attention, though her perceptions were keen and her mind active. All her sensory powers were perfect.

The increase in the number and severity of the epileptic attacks, and the realization of the mental deficiency of this little girl, led the parents to desire an operation; and with the distinct understanding that no positive result could be assured, Dr. McBurney trephined, at Roosevelt Hospital, on February 10, 1891, at my request. A portion of skull about two by three inches was removed over the middle third of the motor portion of the right hemisphere. This point was selected by reason of the paralysis being more marked in the left arm and hand than elsewhere, because the athetosis was confined to these parts, and hence the unilateral convulsion had affected these parts chiefly. The bone and dura were normal; the pulsation of the brain beneath the area being exposed, as well as the sensation to touch, made it evident that there was no cavity with fluid beneath the dura. The dura was therefore divided, and the brain tissue exposed. The fissure of Rolando, and the anterior and posterior central convolutions were recognized. The brain appeared to be perfectly normal. There was no evidence of the previous occurrence of a hemorrhage, or of meningo-encephalitis, and no trace of atrophy. The dura was then sutured, the bone was not replaced, the wound was closed and healed promptly, and in two weeks the child was at home again. For one month after the operation the hemiplegia was more marked, and the athetosis much less; then the paresis began to improve and the athetosis returned, and nine months after the operation the hemiplegia may be said to be markedly improved, but the athetosis continues. The severe epileptic fits with a cry which occurred nightly, and the Jacksonian fits of which she had had two series in the six months prior to the operation, have not recurred. The *petit mal* attacks continued for two months after the operation, and then began to diminish in frequency. The daily record shows the contrast between March and September. In March she was having two or three attacks daily. In September she had fourteen attacks only, having had none at all during the first twelve days of the month. The parents believe that the mental condition of the child is markedly better, and that she is more capable of concentrating her attention. She has a more intelligent facial expression than formerly, but I am of the opinion that such mental improvement as has occurred is owing to more special and intelligent instruction and management than she had prior to the operation, and to the progress of natural development. It is too soon, however, to estimate this condition satisfactorily.

During the past nine months she has had three peculiar attacks in which she has suddenly become alarmed, fretful, and appeared to be suffering. At these times the face has been flushed, and the scalp over the opening in the skull bulged perceptibly. She has not lost consciousness and has had no fit, but subsequently has appeared to be very weak, and for several minutes quite unable to move, and for an hour after has complained of tingling sensations in the hand. Whether the opening in the skull has prevented a sudden cerebral congestion from irritating the brain and thus prevented a fit, may be regarded as an open question. That some marked change occurs in the intra-cranial pressure is proven by the marked bulging on each occasion.

CASE II. *Imbecility, Epilepsy, Hemiplegia—Trephining—Improvement.*—L. B——, now eight and a half years of age, was born prematurely, and was raised with difficulty. Her mother died of phthisis. At the age of five months she began to have convulsions, which had continued up till the time I first saw her, in April, 1891. She was then having twenty fits in a day, each lasting from two to five minutes. At one time she had gone a month without a fit under bromide treatment. The girl had always been an imbecile, had failed to develop properly, and appeared like a child of four years. She was very microcephalic, all the measurements being much below the normal, but the skull was not asymmetrical. She had learned to walk and to talk, but suddenly, in November, 1890, after a fit was found to be aphasic and hemiplegic on the right side. The aphasia was complete when I saw her, having persisted for five months. She understood what was said to her, obeyed commands, but said nothing. The hemiplegia had improved, but her right hand was useless and in a state of athetoid movement. It was less sensitive than the left hand. Her head was in constant rotary motion. Examination showed a right bilateral hemianopsia. The aunt had noticed an increase in the mental dulness, and said that the child was too stupid to cry.

While the appearance and the actions pointed to a condition of imbecility due to microcephalus, it was thought that the sudden onset of hemiplegia and aphasia, with hemianopsia, indicated either the occurrence of a hemorrhage, or beginning tubercular meningitis. With a view to the possibility of removing a clot, the child was sent to Roosevelt Hospital, where, at my request, Dr. Hartley operated upon her on May 15, 1891. A piece of bone, about two inches in diameter, was removed from the skull over the lower part of the motor area and Broca's convolution, and this opening was then enlarged upward and backward. There was no bulging of the dura, and no evidence of increased cranial pressure. When the dura was divided the cortex of the posterior

[1] November, 1891.

part of the third and second frontal convolutions, and the lower half of the anterior central convolution, were exposed to view and recognized. No clot was found, no evidence of meningitis, and the brain presented a normal appearance. The wound was therefore closed, the bone being left out, and it healed promptly without any complication. For six weeks after the operation no change was apparent in the condition, and the fits continued as before, from six to twenty daily. Then a marked improvement began. At present, six months after the operation, the child talks freely, names objects at once, can answer simple questions, and sing children's songs. The hemiplegia has disappeared entirely, but effort with the left hand produces associated motions in the right hand. All rotary movements of the head have ceased. Sensation seems keen in the right hand. There seems to be traces of right hemianopsia, but she is watchful of tests, though too stupid to give any accurate replies. She has been taught to keep herself clean, and is certainly more observant and obedient than formerly, though still imbecile. She is still having fits, but rarely more than six daily. They do not yield to bromide or to chloral. I am wholly unable to explain the very marked improvement which has followed the operation, especially as there was nothing accomplished by it at the time in the relief of local disease, or of general pressure.

In both cases it is interesting to observe, that no gross defect of brain-substance, no marked atrophy was discovered, and if lesions were present in the brain, they must have been of microscopic character. Is it possible that there was in both cases an arrest of development, rather than an actual lesion, and that the effect of the operation was to stimulate the growth of cerebral tissue?

From this review of the clinical types of cerebral atrophy in childhood, of the pathological conditions producing these types, and of the results of surgical treatment by craniotomy, the following conclusions may be drawn:

1. Hemiplegia, sensory defects, and imbecility occurring with or without epilepsy in children, are chronic diseases, incurable by medical treatment. Any means which may be legitimately used to save the individual from a life of invalidism, and to take the burden of his care from the family, is to be employed.

2. The pathological conditions producing these symptoms may be either gross defects and atrophies of the brain, or an arrest of development in the cerebral cells, without any change which is apparent to the naked eye.

3. It is at present impossible to determine absolutely the pathological condition present in any given case, without an exploratory operation.

4. Such operations are not without danger, but if caution is used in opening the dura, and if the operation is made as short as possible, the dangers are avoided.

5. When manifest atrophies are present the operation will not produce any result. When the condition is one of arrested development of cerebral tissue, it may prove of service. When clots, cysts, or tumors are found and removed, the chance of recovery is increased. When the skull is markedly microcephalic from early union of the sutures, the increased space given to the brain by the operation appears to stimulate its growth and development.

6. Epileptic attacks are frequently reduced in frequency and modified in character by craniotomy. When the opening of the skull remains covered only by the soft tissues, it appears to act as a safety-valve, allowing changes in the intra-cranial contents to occur without producing pressure upon the brain.

7. While hemiplegia, aphasia, athetosis, and sensory defects have been relieved by operation, it is as yet impossible to predict to what extent imbecility may be relieved.

8. Reports of cases should be made in full, and not within six months of the time of operation, as conclusions cannot be reliable unless reached from long observation.

A CONTRIBUTION TO THE TREATMENT OF MALIGNANT GROWTHS.

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Among the diseases with which mankind is afflicted cancer plays an important rôle. This disease has lately spread more and more, and statistics show that the number of deaths from cancer increases every year. This increase the anti-vaccinationists refer to obligatory vaccination, proving by their figures that from the moment of introducing preventive inoculation of small-pox in the West Indies and the South Seas cancer became a more frequent disease.

It is not our intention to examine in this article the causes influencing the frequency of cancer, and we quoted the above opinion only because of its originality. Our aim is to look over some facts concerning the treatment of cancer, and to deduce from them the road that we must follow in order to conquer the disease.

Up to the present time the only effectual remedy for the disease has been the knife. It, however, can be useful only when it is applied just at the beginning of the disease; and as patients affected with malignant tumor for the most part call the doctor only when the disease has become generalized, the operation as a remedy is palliative only, but of radical recovery there can be no question. The statistics of operation for cancer are not at all equivocal, and for this reason some surgeons refuse to regard it as a remedy. Besides that, this treatment diverges too far from the so-called "ideal therapy," the aim of which is not only to restore the health of the patient, but also to retain the integrity of his tissues. Therefore the question arises: what way must be kept to make the fight with this disease possible? Nature, like a kind mother, has not neglected to indicate the way here as everywhere else. We are well familiar with the clinical fact that, as soon as a patient affected with malignant growth is attacked with erysipelas, the tumor either disappears entirely or at least considerably diminishes in size.

Let us look over the literature of the subject during recent years.

Dr. Biedert,[1] of the Hegenauer Hospital, has published an interesting case showing the effect of an attack of erysipelas on the course of a slowly growing sarcoma. The patient was a girl, eight years of age, who presented herself two years before with a tumor the size of a hen's egg, on the left tonsil; an operation was advised, but refused. A year and nine months later the child was again brought, and the growth was then found to involve the whole posterior half of the buccal cavity, including the tongue, which, moreover, presented an ulcerating mass at its apex on the left side; it had also involved the nasal cavity and the right eyelid. The general condition was serious, there being inability to swallow, and great dyspnœa, which was so urgent that tracheotomy was performed. An attack of erysipelas supervened in three days, beginning in the neighborhood of the right eye. The attack was severe (temperature 104° F.), and was allowed to run its course for six days, at the end of which time the growth had disappeared in every part, except two nodules, of the size of a pea, in the right upper lid and the nostril; these were afterward excised. There was no infiltration in the throat and tongue, but much puckering and scarring. Some months after there was no recurrence of the growth in any part.

Roman Iasinski, in a Polish paper,[2] has described a case in which a lymphoma, complicated with erysipelas, disappeared entirely, and Professor Billroth[3] refers to Professor Volkmann, who witnessed the disappearance of a fibroma, *i.e.*, a tissue which comparatively is very dense,

[1] Deutsch med. Zeit., No. 5, 1886; quoted also in British Medical Journal, February 13, 1886, p. 313.

[2] Róza zbawiennu (érysipèle salutaire), Gazeta Lekarska, No. 18, 1881.

[3] Handbuch d. allg. u. spec. Chirurgie.

after an attack of erysipelas. Even upon tuberculous tissue erysipelas extends its salutary action. Dr. Waibel[1] has published a case of a patient with a very pronounced family history of tuberculosis, who had exhibited for about two months distinct evidences of beginning phthisis pulmonum. There had been fever, sweats, expectoration which was sometimes bloody, emaciation, dyspnœa, and progressive weakness. Physical examination revealed some depression and diminished expansion of the upper part of the right side, decided dulness on percussion, increased vocal resonance, and somewhat bronchial respiration, with a few râles. During five weeks of observation the physical signs grew worse, the left side began to be involved, the amount of expectoration increased, and there was fever in the evening. At this period the patient developed a severe attack of facial erysipelas, spreading over the whole head, and accompanied by rapid pulse, high fever, delirium, and great prostration. This condition lasted a week, and after recovery there was a surprising change in the pulmonary symptoms. Fever and insomnia permanently disappeared, and a prodigious appetite developed. In three months the patient was perfectly strong, and able to undertake hard outdoor labor. Nearly a year after the first observation, the author again examined his quondam patient, and found scarcely a trace of the former pulmonary lesions.

Dr. Grivet[2] relates a whole series of cases of lupus cured by erysipelas, and this kind of happy complication produced by erysipelas, and its salutary effect upon the course of incurable or obstinate diseases, was selected by Dr. Daniel Chambon[3] as the subject for his inaugural dissertation. From the above properties of erysipelas physicians have more than once endeavored to draw profit and use them for therapeutic purposes. The question has been raised and variously answered as to the justifiability of artificially producing erysipelas in desperate cases.

Ricord and Deprés, in France, were the first to carry this procedure into execution; and Busch, in Germany, did the same with astonishing results. When Fehleisen succeeded in obtaining pure cultures of the cocci of erysipelas, the experiments with inoculation of erysipelas to cure malignant tumors began to multiply. Fehleisen[4] himself reported seven cases in which inoculation had been performed, namely: in one case of numerous fibrosarcomata cutis; in three of carcinoma mammæ inoperabilis; in one of sarcoma of the right eye (two inoculations); in two of lupus. Although the results of this treatment were not very splendid, yet it must be owned that almost in every case a slight diminution of growth could be observed. The best results, however, were obtained in cancer of the breast, where in one case complete recovery was effected, and in two considerable diminution in the size of the tumor. Further the adoption of this measure is recorded by Dr. Axel Holst,[5] of Christiania. The patient was a woman, aged forty, who had a recurrent carcinoma of the right breast, for which she declined further operation. In a few months the cancer had infiltrated the greater part of the surface of the right half of the chest, forming a red brawny mass, with a raw surface, nodulated on the margins, while the axillary and clavicular glands were much enlarged, and the arm was œdematous.

In spite of the unfavorable aspect of the case, it was decided to try the effect of erysipelas inoculation. After twenty-one hours the patient had a series of rigors followed by the appearance of an erysipelatous blush, which, within thirty hours extended over the whole right arm, and later spread to the left side of the chest, back, and even to the left arm. In a few days the erysipelatous area was confined to a margin from three to six centimetres in width; and on the seventh day the fever, which throughout had not been high, fell by crisis. At the end of four months and a half the erysipelas still persisted on the right arm, but the patient had manifestly lost ground. During the first two months and a half the progress of the cancer appeared to be arrested, and for some distance the wound had healed over, while the induration had become less marked. The inoculation had, then, prolonged life, for the arrest in the progress of the cancer was marked; but the patient, who formerly was in good health, lost her strength and appetite, which before were perfect. The loss of strength the author ascribes to the inoculation, and concludes that the application of this procedure requires some courage on the part of the physician.

Dr. Tanicke,[1] in *Wiener med. Blätter*, reports the case of a woman, forty years of age, affected with recurrent cancer of the breast; it was a *casus inoperabilis*. In spite of excessive pain the strength of the patient was satisfactory and the internal organs were healthy, and this was the reason that inoculation of erysipelas was made. Within eight hours from the time of inoculation, she had violent chills, and the temperature rose to 40.2° C. Three days after the inoculation she died in collapse. Notwithstanding that the time was so short the tumor had softened and diminished, and one nodule under the collar-bone had disappeared entirely. It could be noticed with the naked eye that the growth had softened. The histological examination, made by Professor Neiser, proved that the tumor was an epithelioma. The author is of opinion that the above observation gives eloquent testimony to the danger of artificial inoculation of erysipelas. Of another opinion is Dr. Kleeblat,[2] who has seen only positive results and not any dangerous consequences in the treatment of three cases of malignant tumors by inoculation of erysipelas.

This method of treating malignant growths, praised by some and by others regarded as not suitable, could not attain the right of citizenship in science for two reasons: First, that erysipelas in itself is a serious disease, sometimes bringing to the grave even the strongest organisms; second, that we are not able to govern its course, and therefore by application of such an heroic remedy we might too much expose the patient to danger, who is already, as a rule, enfeebled. The fact, however, of the salutary effect of erysipelas on the course of growths in general remains, and involuntarily rises before our eyes, especially in such desperate cases where the doctor called to the patient is able to do nothing but offer some consoling words and administer narcotics.

Although the inoculation of erysipelas should be dispensed with, yet the toxine, excreted by cocci of erysipelas, as entirely susceptible to accurate doing, should be tried, and in this manner the fact of the healing action of erysipelas may be rendered therapeutically available.

I believe that every physician may undertake experiments with the toxine of erysipelas in cancer with a quiet conscience, because they will be based upon certain facts, and the plan and conductive idea will be transparent in them. Thus, as much as the experiments in the inoculation of cancer upon patients in sleep were condemned by all as being aimless, and made only in order to affirm once more what already had been proved by Weber, on dogs, and Henau, on rats, so much again the experiments with toxine of erysipelas, as based upon certain facts and made with an aim, should be accepted with appreciation.

As I do not occupy myself with bacteriology, and have now no occasion to betake myself to the above kind of experiments, I throw out the idea with the hope that perhaps the bacteriologists will take it in consideration, and who knows whether, following this road, we shall not reach the fields where an abundant crop awaits us.

87 Krakowskei Przedmiescie.

[1] Münch. med. Wochenschr., No. 48, 1888, p. 841.
[2] Thèse de Paris, 1874.
[3] De l'influence salutaire de l'érysipèle dans certaines maladies. Paris, Derenne, 1876.
[4] Die Aetiologie des Erysipels. Berlin, 1883.
[5] Ein Fall von Carcinoma Mammæ (Recidiv-), mittelst Erysipelimpfung behandelt. Centralbl. für Bakteriol. u. Parasitenk. Iena, 1888, ii., 393-396.

[1] Quoted by Vratch, No. 26, 1884, p. 436.
[2] Ein Beitrag zu Heilwirkung des Erysipels bei malignen Tumoren, München med. Wochenschrift, 1890, xxxvii., pp. 107-109.

SUPPURATIVE PERITYPHLITIS—REPORT OF CASE—RUPTURE INTO BLADDER AND RECTUM—OPERATION—RECOVERY.

By M. T. SCOTT, A.M., M.D.,

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On October 2, 1891, I was requested by Dr. W. H. Fish, of Nicholasville, Ky., to visit with him a patient forty miles from this city. The history of the case before my visit was about as follows:

P. H. McG——, aged thirty-three, white; minister, American by birth, married; had never been a stout man. Had suffered severely for years from malaria contracted in the swamp lands of Mississippi and Louisiana. He had also had repeated, but not profuse, hæmoptysis.

For some months prior to September 8, 1891, he had been in unusually good health. He had gone, some weeks previous, beyond Mt. Sterling, Ky., to conduct a "protracted meeting" at a country church. On the afternoon of the above date he had walked two miles, and had also amused himself by cracking stone for a macadamized turnpike, by the roadside. He ate freely of grapes, as was his custom. In the evening he took a hearty supper and preached a sermon about two hundred yards from his lodging-place. During the night he was awakened by an intense pain in the right iliac region, which radiated over the entire abdomen. He vomited freely, and had a copious discharge from the bowels; neither, however, afforded him any relief. The following morning a physician was summoned, who administered morphine hypodermically. For the next eight days, opiates and salines were continued; a dull, painful induration occupying the right iliac fossa during that time. His bowels were kept open. Pulse and temperature remained high. On the ninth day of his illness, his family physician, Dr. Fish, was summoned. By his advice, one ounce of castor-oil was administered. A few hours later, a large enema was given—after great straining, a mass of very hard fæces was voided. The patient expressed himself as greatly relieved, remarking that he had been in labor more than a week, but was now delivered. Purgatives, morphine, and blisters over the iliac hardness, which was not reduced by the action referred to, constituted the treatment until September 29th. The temperature, meanwhile, ran to 102° and 103° F, and pulse as high as 120. Chilly sensations and profuse perspirations were of daily occurrence.

On the above mentioned date the patient felt a sudden desire to empty his bladder. He arose, and while straining violently, felt something give way. This was immediately followed by an escape of gas, pus, blood, and feculent urine from the penis. The escape of gas making a whistling sound. The abdominal fulness subsided somewhat; the temperature and pulse fell to about normal. The urine was voided very frequently, was thick, turbid, scanty, and presented a distinct feculent odor and sediment.

I first saw him in the afternoon of October 2d. He was extremely emaciated and sweating; pulse, 93, temperature, 101⅘° F. The abdomen was tender, but not extremely so, greatest sensitiveness being in the right iliac region and to the left of the navel. An ill-defined dulness and sense of resistance was found over the head of the colon. He was but slightly nauseated, taking his nourishment fairly well.

In the consultation room, I advised an operation as his only hope of recovery. The symptoms not being very threatening, and he, in the country, among strangers, I urged his immediate removal to the Protestant Infirmary in this city, where he could have the advantages of accomplished trained nurses and an admirably conducted hospital.

The journey was arranged for the following day. Four hours previous to his removal, while straining at stool, he felt another sensation of giving way; this was followed by about three ounces of pus from the rectum, and then a movement.

The journey to this city, five miles of which was on a wagon and thirty-five miles in the cars, was devoid of interest. The motion of the rapidly moving express train occasioned much pain. He entered the hospital at 6 P.M., October 3d. His pulse was 93, temperature, 101½° F. His condition was noted as "extreme emaciation, anxious countenance, general abdominal tenderness, frequent passages of scanty, turbid, and feculent urine, much dysuria." On the following morning, at a consultation with a number of my professional friends, a digital examination detected the point of rupture into the rectum, immediately above and to the right of the prostate.

At 10 A.M., October 5th, the "A. C. E." mixture was administered by Dr. H. M. Skillman. In the operation, I was assisted by Drs. Fish, Falconer, Barrow, Bryan, Moore, and others. As no well defined fluctuation or resistance was found, I made a median incision three inches long, midway between the umbilicus and pubis. The entrance of the peritoneal sac was accompanied by a copious flow of gas and feculent pus, probably more than a pint of the latter. Adhesion had cut off the lower peritoneal pouch from the general cavity. Coils of small intestine floated in the pus-cavity. The perforations into the bladder and rectum were found in the vesico-rectal fold near the bottom. The tract leading to the cæcum was not found, and no attempt was made to break up adhesions, lest the general peritoneum might be infected. The sac was thoroughly cleansed, and large parallel glass and rubber drainage-tubes reaching to the bottom of the abscess pouch were inserted. The operation lasted thirty minutes. The shock was marked. Hot bottles and whiskey hypodermically were freely used. Reaction came on slowly. Hot water, in small quantities frequently repeated, allayed nausea. The catheter was used but once, four hours after the operation; the urine was then thick, offensive, and feculent. The bladder was subsequently emptied voluntarily, at short intervals, with great pain. Twenty hours after his removal from the table, all odor from, and feculent sediment in, the urine ceased, and at no time returned. The vesical irritability and tenesmus gradually abated. The fluid was withdrawn from the tubes at frequent intervals. The cavity was frequently washed out with hot water. Stimulants, whiskey, egg-nogg, and beef-tea, were commenced in twenty-four hours. Small quantities of morphine were used hypodermically to quiet his bladder irritability.

On the morning of the second day, free purgation was induced by three one-drachm doses of magnesium sulphate, repeated at intervals of two hours. A small quantity of glycerine was also thrown into the rectum to soften down any hard fæces that might undo any reparative action about the rectal opening.

On the afternoon of the fourth day his temperature rose to 101° F. and the pulse to 110. Tympanites was marked and distressing. A blush appeared around the wound and the patient became restless and anxious. The stitches were cut, adhesion broken up, and the wound was thoroughly cleansed. A small undraining pocket of feculent pus was found to the left of, and above, the incision, behind the anterior abdominal wall. This and the wound were packed with iodoform gauze. Salol was also ordered in five-grain doses every four hours. A marked improvement followed this procedure.

The rubber drainage-tube was removed on the seventh day. On the fourteenth day, a full dose of calomel was given to correct a transient digestive disorder; six hours later the abdominal compresses were found saturated with bile. The glass tube was replaced on the fourteenth day by a rubber one; this was gradually shortened, and gave place to smaller sizes, until its final removal on the fortieth day. On the twenty-fourth day an aggravation of symptoms suddenly arose. Pulse and temperature reaching 124 and 102° F., respectively. Two days later, about half an ounce of pus welled out of the tubes.

After this, what little iliac tenderness had all along existed subsided, and the patient convalesced rapidly and uninterruptedly.

On October 30th, during the relapse just referred to, a portion of mucous membrane four by six inches was voided per anum. It was firmly organized, and, so far as I could determine, was from the cæcum.

On November 25th, the patient left for his home, much improved in flesh. He had for days prior to his departure been walking about the hospital, going up and down stairs. No lameness or tenderness existed. His bladder and bowels acted painlessly and voluntarily at regular intervals. The iliac hardness was constantly diminishing. He was advised to take compound syrup of the hypophosphites as a tonic for some time. I might add that the administration of the remedy was commenced ten days after his admission to the hospital. The wound had entirely healed except a small granulation where the tube remained so long. There was no sinus. I have recently heard from Dr. Fish that the wound cicatrized promptly, and that no hernial tendency existed. At no time while the patient was under my observation did he have any cough. Inspection, percussion, and auscultation of the chest failed to reveal any anomaly.

Remarks.—That perityphlitis or peri-cæcal cellulitis is of much more frequent occurrence than was formerly supposed cannot be doubted. Modern methods of diagnosis have cleared up many cases that formerly would have been vague and uncertain. Practitioners of medicine as well as of surgery frequently encounter this malady. Thanks to the instruction of those who have taught us that the dangers of opening the abdominal cavity are often less than those of what had erroneously been termed conservatism, its treatment has been placed on a practical and scientific basis.

While authorities are divided as to the advisability of surgical interference in perityphlitis in general, they, of course, agree that where pus has formed it should be evacuated. Nearly all cases of pericæcal cellulitis or appendicitis terminate in suppuration, sooner or later.

While nature unaided may empty the abscess into the intestine or externally, still the danger of rupture into the peritoneum is great, and even if the pus is voided, still the peril from burrowing, absorption, bad drainage, and exhaustion is by no means small. Howe, in the second volume of the "International Encyclopædia of Surgery," says that if the abscess rupture into the peritoneal cavity, it is always fatal. He adds, "When the bladder is perforated, which is a rare occurrence, pus in considerable quantity may be distinguished in the urine."

The Rarity of Rupture into the Bladder.—While all authors either state or imply that a perityphlitic abscess may burst into the bladder and rectum, still very few cases are recorded of rupture into the former viscus. In the New York MEDICAL RECORD of October 17, 1891, mention is made of such a rupture by Dr. Cotton, in the report of the "Transactions of the Canadian Medical Association." We can readily see, from a study of the pelvic anatomy, why this rupture is rare. Less resistance is encountered in other directions.

It does not seem possible for a spontaneous rupture into the bladder to afford sufficient drainage. The opening is usually small, a violent cystitis must ensue, and there is great danger of some intestinal contents forming the nucleus of stone, even if the more imminent perils are avoided.

Suddenness of Attack.—The disease under consideration usually, even in the most acute cases, has a period of malaise, tenderness, and vague pain about the cæcum, radiating over the abdomen, before rupture of the sac. This patient, a remarkably intelligent man, by the way, had been in unusually good health, had never had any discomforts about the caput coli; in short, had no intimation whatever of the storm that was brewing until the onset of the symptoms was so violent as to be explicable only on the theory of rupture.

Long Use of the Drainage-tube.—Occasional elevations of temperature and pulse, culminating in more copious pus discharges, made me very loath to give up drainage and allow the external wound to heal, lest some accumulation might remain undrained.

Coils of Intestine in the Sac.—The pus-sac in the case under consideration was not formed by the pushing aside of the intestines, but was composed of a large section of the peritoneum. Coils of the ileum, as has been stated, were floating in the feculent pus. It seems marvellous how nature could so interlace these organs, ever moving and changing their shape and relations, with a protected barrier which so securely presented general peritoneal infection.

Conduct of the Drainage tube.—The abdominal compresses for the first three weeks were frequently saturated with a clear fluid with a strong urinous odor. At no time, however, was the fluid withdrawn from the cavity of a similar character. While the vesical rupture was from the peritoneum into the bladder, still, after the first twenty hours at the farthest, the leakage was from, and not into, the bladder. No evidence of intestinal leakage was found after the bile-staining of the dressings on the fourteenth day. Whether this biliary matter came from the original cæcal opening or through the rectal perforation, I am unable to say. The fluid from the drainage-tube frequently had a musty, intestinal odor, almost feculent. This, however, does not impress me as any evidence of leakage, such an odor being common about any pus from near the intestinal tract.

When to Operate.—It does not seem to me proper to specify any special day on which to operate. No two cases progress with the same rapidity. Dr. Gregg Smith's advice, as contained in his "Abdominal Surgery," is as follows: "Consecutive evening temperatures, for four or five days, rising over 102°, would seem to justify operation. If the patient is losing ground, if hectic supervenes, possibly with rigors, and generally if the condition seems to be drifting into one in which operation would be dangerous to life, then we should interfere." Unquestionably, the proper time to operate is as soon as pus has formed, before the abscess has ruptured. The giving way of the sac, and the diffusion of pus, changes the entire aspect of the case.

An insidious malady has become a desperate extremity. Shock is frequently profound, vitality is reduced, and the recuperative forces are sapped. Many surgeons have to deplore cases that were deferred. I know of no one having recorded himself as a mourner over an operation done too soon.

What Incision Should We Make?—Nearly all writers favor the lateral cut, as affording most ready access to the site of the disease, and if, for diagnostic reasons, the median incision is done, it is probably wise to supplement it by the iliac opening. I did the central operation, knowing that I had the pelvis to drain. Notwithstanding the recovery of my patient, I have at times thought that it might have been wise, had I made a secondary exploration over the appendix; by so doing I could probably have determined the exact site of the original lesion, an investigation that was denied me, except by an unjustifiable breaking up of adhesions. My patient was in an extreme condition; his vitality was so low that I did not dare protract the manipulation or anæsthesia. That my patient would have died if left to nature, I am quite sure. He was emaciated to an extreme degree, and was suffering from marked sepsis, after both openings had occurred After the bladder rupture there was a temporary amelioration; it did not last long, however. The vesical tenesmus was intense and exhausting. The pus-pouch was large, and was extending behind the anterior abdominal wall, to the left and above the umbilicus. That it was not draining was clearly shown by the large quantity of fæces and pus found in the sac at the time of the operation.

In conclusion, I feel that I would be ungrateful did I

not express my sincere thanks to the trained nurses, Miss Frantz and Miss Stephens, who aided so materially in the restoration of the patient's health. Their care was most gentle, skilful, diligent, and conscientious.

THE MANAGEMENT OF LABOR WITHOUT VAGINAL EXAMINATIONS AND WITHOUT PROPHYLACTIC VAGINAL DOUCHES.

By JULIUS ROSENBERG, M.D.,

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In this paper I wish to prove two things: 1st. That vaginal examinations are not without danger, and ought to be supplanted by abdominal palpation in the majority of cases. 2d. That vaginal douches are unnecessary in normal labor, and are frequently even harmful.

In discussing these points I will not advance theories, but will give figures and facts; and while it is true that statistics can often be arranged to prove anything, we have so far nothing better to take their place.

Döderlein reports three cases of puerperal infection out of Zweifel's Clinic in Leipzig.[1] These cases were examined by one nurse only, at intervals of from three to eight hours. Investigation has shown that the rigid antiseptic rules of that institution were thoroughly carried out by this nurse. The second case died of puerperal septicæmia eight days post partum, the other two women made a slow recovery from the same malady. It was found that the first case admitted was suffering from a purulent conjunctivitis, and that she must have infected her genital tract prior to labor with her own fingers. It was also demonstrated that even scrupulous disinfection of the fingers after each examination does not give absolute security against the transmission of infection from one person to the other. As the labor was normal in all these three cases vaginal examinations could have been dispensed with, and thus infection avoided.

Veit[2] remarks that it has been demonstrated without a doubt, that infection from the micro-organism normally present in the vaginal secretions is extremely rare. In nearly all cases infection comes from without, either through the unclean examining finger, or infectious material is carried from the external genitals into the vagina and cervix. Hegar[3] has cautioned against frequent vaginal examinations, the external examination should whereever possible displace them.

Winkel remarks[4] that while making an internal examination of a woman in labor, we must remember that, owing to the vascularity and fragility of the parts, there is always imminent danger of the exploring finger inoculating infectious material into the tissues.

The principal danger for the woman lies in the vaginal examinations, because they expose her to two sources of infection: first from without by the unclean examining finger; second, by the aseptic finger introducing infectious material from the vagina into the uterus through the os.

I believe with Berczellen[5] that the great majority of post-partum diseases could be traced to vaginal examinations as their cause; he says: "External examination is in the majority of cases sufficient to establish the correct diagnosis, and enables us also to follow labor through its various stages."

Leopold[6] reports 919 cases in which neither vaginal examinations were made, nor a single douche administered. In 12 of these cases (1.3 per cent.) was there a rise of temperature, which in 10 (1.09 per cent.) could be traced to causes not referable to the act of labor. Thus, in only 2 cases out of nearly 1,000 was there infection acquired through parturition, and even these were of a very mild character, terminating in speedy recovery. I have failed to find in the literature results equally brilliant.

Pavlik[1] speaks favorably of the value of external examination. He says: "Through it alone we can make the diagnosis of transverse or longitudinal position, whether the breech or the head presents, and whether the head has entered the true pelvis or is still movable above the linea innominata."

Sänger, of Leipzig, remarked at the last gynecological congress in Bonn, how frequently vaginal examinations were made by the general practitioner shortly after he had incised an abscess or explored a cancerous ulcer. Even should he disinfect his hands thoroughly, which surely often is not the case, he is very liable to deposit infectious germs into the genital tract.

It is but six years ago that Credé first urged the point that abdominal palpation ought and could displace the vaginal examination in a number of cases. In his book "Gesunde und Kranke Wöchnerinnen," he writes: It has always been my aim to perfect myself in the various methods of making the correct diagnosis in a case of labor by abdominal palpation alone. I have the absolute conviction that the vaginal examination which, until now, is the only accepted method, can be, and should be, displaced in the majority of cases by the external examination. The slightest exploration of the genital canal can injure the tissues, and once the continuity destroyed, the gates to infection are open."

We owe Credé three great innovations, every one of them will stamp him forever a public benefactor. His method of managing the third stage of labor is adopted by all civilized nations, his investigations as to the pathology and prophylaxis of ophthalmia neonatorum have resulted in the preservation of the eyesight of thousands of infants, and many more women will enjoy life and health when once the pernicious practice of needless and frequent vaginal examinations becomes a thing of the past. The student must be taught the method of abdominal palpation in a thorough manner, he must learn that he has chiefly to rely upon this for making a correct diagnosis, and that vaginal examinations are to be resorted to only in doubtful cases. If this were more widely adopted, the material, to which now but few have access, could be used to advantage by many.

In the Royal Maternity at Dresden, twice a week, all waiting women are examined by the Director, Professor Leopold and his assistants, by abdominal palpation, everyone writes down his diagnosis as to whether primipara or multipara, time of gestation, size and position of child, and location of placenta; afterward the diagnosis is compared, and it is but seldom that difference of opinion exists. I have delivered one-third of my cases (much over four hundred) without making a vaginal exploration, and now reserve this method only for exceptional cases.

What are our reasons for making a vaginal examination?

First, we want to know whether labor has commenced. The external method will answer this question perfectly; it shows the height of the fundus, the position of the child, and the presenting part. By observing the woman, we can learn the stage of labor, and by examining the bedcloth the nature of the vaginal discharge, and whether the membranes are still intact. Auscultation shows the condition of the child, and observation of pulse and temperature that of the mother. If all this is normal, is it not only frivolous curiosity which induces us to to subject the woman to the dangers of a vaginal examination? During the expulsive stage there is but seldom an indication for a vaginal exploration, and then generally the question of operative interference arises.

Briefly stated, the indications for a vaginal examination are as follows:

a. *General Disturbances.*—1. Fever and abnormal pulse. 2. Eclampsia and nephritis.

[1] Archiv für Gynecol. vol. xl.
[2] Der Frauenartzl, 1891, p. 395.
[3] Volkmann's Vorträge, No. 351.
[4] Lehrbuch der Geburtshülfe, p. 86.
[5] Centralblatt für Gynecol., 1891, No. 33.
[6] Leopold und Goldberg: Archiv für Gynecol., vol. xl.

[1] Wiener med. Blätter, No. 21.

b. *Local Disturbances.*—1. Protracted preservation of membranes. 2. Discharge of blood from the genitals. 3. Excessive severity of pains. 4. Uterine inertia. 5. Protracted labor.

c. *If the abdominal examination shows :*—1. Abnormal position or presentation. 2. Abnormal distention of lower uterine segment, threatening rupture of the uterus. 3. Abnormality of the fœtal heart-sounds. 4. If the head remains movable above the pelvic brim in a primipara or in a multipara after rupture of the membranes.

If these rules are adhered to, the number of cases in which a vaginal examination becomes necessary will be about one-third.

It must be the object of the obstetrician to diminish the yet comparative high mortality and morbidity, and I believe that by diminishing the frequency of vaginal examinations a great step in the right direction will be made.

Just as little as a surgeon introduces his aseptic probe into a wound without proper indications, just as little is the obstetrician permitted to introduce his fingers in the genital canal without necessity. The fact that a woman is in labor is no indication. Do we use a speculum or uterine sound in every gynecological case, if the combined method of examination has given satisfactory results? Why then are obstetrical examinations considered incomplete when not one or several vaginal examinations are made?

I will now briefly relate how I employ abdominal palpation ; it is the method taught by my esteemed teacher, Professor Leopold. He uses four methods (Griffe). Gentleness should always be preserved as an undue amount of pressure results in exciting uterine contractions; during those the examination must be interrupted for the time being.

The woman lies upon her back, with her limbs extended, the abdomen is exposed from the symphysis to the ensiform cartilage.

First. The physician sits at the side of the woman, places both hands slightly flexed, so as to correspond to the convex surface of the uterus, upon the abdomen, and gradually carries them upward toward the fundus; this reached, the failure of resistance is noticed. This teaches us the size of the uterus, time of gestation, whether the child is in longitudinal or transverse position, and whether head or breech occupy the fundus. The uterus is recognized by its intermittent contractions. Care should be exercised not to mistake the bladder for the uterus, therefore the former must always be emptied prior to an examination.

Second. The hands are placed at each side of the uterus; then under one hand we feel the arched back, under the other the small parts corresponding in position to the abdominal surface of the fœtus. When the abdominal walls are thin, the different parts can be felt with surprising clearness.

Third. The fingers of the right or left hand are spread as much as possible, and the presenting part is seized between thumb and middle-finger. If it is round and hard it can only be the head, which can be grasped like a cannonball and moved if above the pelvic brim. The breech is softer, and its surface more irregular. Can no presenting part be felt, then we must look for the head on either side. If the outlines of the presenting head or breech are indistinct, then we are to be suspicious of placenta prævia.

This third method is very valuable in all cases where the presenting part is yet in the entrance of the pelvis; a practised examiner can also locate, through this alone, where the occiput and where the chin point to.

As labor is more advanced, the fourth step will be : The physician takes his place at the bedside, turning the back toward the patient's face. The hands are placed in such a manner upon the patient's abdomen that the fingers are directed toward the cervix. During the intervals of pain the hands are pressed down deep into the pelvis and the presenting part is grasped. The head is again recognized by its peculiarities.

The presence of small parts in close proximity to the abdominal wall, indicates that the back of the child is directed toward the sacrum. Descent of the fœtus is often prevented by abnormalities of the pelvis, in these cases the contraction ring can be felt by abdominal palpation, and thus the danger of a rupture of the uterus by timely means be averted.

Auscultation should always be associated with abdominal palpation to verify our diagnosis, and for reasons previously mentioned. With heart-sounds to the left in maximum intensity the back of the child is directed to the left. When the back is posterior the heart-sounds are loudest in the axillary line and in breech presentations they are heard at a higher level.

All these points of information can be gotten even by the comparatively inexperienced after but little practice; no danger arises for the woman, and her sense of modesty does not need to be so often shocked.

What, now, are the advantages of vaginal examinations?

In the opening stage they reveal but little, only a small part of the presenting part is in our reach, and sometimes the cervix is so directed as to be almost inaccessible. That there is always danger of injuring the tense membranes, or that they prevent every satisfactory examination, is equally well known; therefore we lose nothing and gain much by diminishing the frequency of vaginal examinations and laying more stress upon abdominal palpation.

Obstetrical antisepsis was first brought into use by Semmelweiss, of Vienna, as is well known, when he introduced the disinfection of the hands with chlorine water, in 1847; it resulted in lowering the mortality from puerperal fever, from 12.24 per cent. to 1.27 per cent. A new impetus was given by the investigations of Lister. The excellent results which his methods had given in the treatment of wounds, and the prevention of wound-fever, were also thought applicable to the obstetrical practice. It was the same with this as with every new discovery, the zeal to gain all its advantages carries us beyond the point. Investigation had shown that the genital canal contained micro-organisms and therefore its disinfection was deemed necessary to the prevention of puerperal fever. Carbolic acid sprays and all the paraphernalia of Listerism were brought into use, and eminent men everywhere thought it requisite that the parturient woman be prepared as for a capital operation. I only need to refer to the famous discussion between Professors Thomas and Fordyce Barker, in the Academy of Medicine, regarding the prophylaxis and nature of puerperal fever. Barker remarked that if an ordinary case of labor must be treated as if she had to undergo a laparotomy, "to save thousands of lives which are now lost, and to spare thousands of desolate homes the sorrow of losing their female heads, then the State should make child-bearing a penal offence for all those families who do not have sufficient income to carry out all these requirements."

The extensive antiseptic measures then advocated did not only do any good, but I am sure this unnecessary meddling had often the opposite effect. The first statement is borne out by the observations of Lusk; he says: "In lying-in hospitals, where I have seen many epidemics of puerperal fever, there was a time when everything was washed and scrubbed with great vigor. Carbolic acid was used without a stint, but these precautions have never exerted the slightest influence upon the prevention and restriction of puerperal fever."

The drift is now distinctly in the line of non-interference and restriction of vaginal examinations. The problem which we have to solve is to secure for women who are to be delivered at their homes any approximation of the security which they enjoy in well-regulated institutions; for the great lying-in hospitals, if properly managed, give an almost ideal safety to mother and child.

What are the methods adopted in the principal lying-in hospitals?

Leopold, in Dresden, employs the strictest antisepsis as to the examining finger and instruments. Thorough cleansing of the external genitals with soap and water, and $HgCl_2$, 1 to 4,000. Vaginal douches only in cases where instrumental interference is required. In former years he also used prophylactic vaginal douches. I will compare the results of the two methods.

	Without a rise of temperature.	Short rise of temperature.	Discharged up to the twelfth day.	Rise of temperature extending over several days.	Rise of temperature due to infection.	Total number of deaths.	Number of deaths as a result of infection acquired in the clinic.
Vaginal douches with $HgCl_2$ (1 to 4,000), 1,326 cases	1,101 83.3%	136 10.25%	1,227 93.28%	39 2.92%	41 3.09%	20 1.51%	6 0.44%
No vaginal douches, 1,123 cases	1,014 90.29%	63 5.61%	1,077 95.90%	23 +2.5%	15 1.33%	10 0.89%	
Difference in favor of the second method	+7.26%	−4.64%	+2.62%	−0.87%	−1.76%	−0.62%	−0.44%

	Without a rise of temperature.	Short rise of temperature.	Discharged up to the fourteenth day.	Rise of temperature extending over several days.	Rise of temperature due to infection.	Total number of deaths.	Number of deaths as a result of infection acquired in the clinic.
Vaginal douches with $HgCl_2$ (1 to 4,000), 440 cases	366 83.18%	66 10.45%	412 93.64%	7 1.58%	14 3.07%	7 1.58%	3 0.68%
No vaginal irrigation, 836 cases	759 90.7%	47 5.62%	806 96.42%	15 1.79%	9 1.7%	6 0.72%	
Difference in favor of the second method.	+7.61%	−4.83%	+2.78%	−0.21%	−2%	−0.86%	−0.68%

These investigations show superior results for the non-interfering method; but this is not all. Leopold found also ruptures of the perineum and hemorrhages from the vagina less frequent in proportion as the lubricating mucus, which nature so wisely produces, is not interfered with.

Szabo, in Buda-Pesth, pleads for discontinuing of vaginal douches in normal labor cases.[1] He proves from the material of the Buda-Pesth Maternity, that the mortality and morbidity are lower there than in the clinics in which prophylactic douches are still employed.

Pippingsköld, in Helsingfors, prescribes on entrance in the clinic a warm bath, and before an internal examination is made, a thorough cleansing of the external parts with soap and water. The hands are of course thoroughly disinfected Uterine douches he uses about once or twice a year among eight hundred labor cases. If the woman has been repeatedly examined before entering the clinic, if she has fever, or labor is unduly protracted, then he applies a speculum and, after cleansing the vagina with antiseptic cotton, administers an antiseptic douche. His mortality, all deaths included, has not exceeded 0.29 per cent. in four consecutive years.

Mermann reports five hundred cases out of the Mannheim Maternity,[2] treated without vaginal douches, and without a single death. He had no case of severe puerperal infection, and all women were discharged prior to the fourteenth day, with one exception on the eighteenth day.

Winkel, in Munich, also Olshausen and Gusserow, in Berlin, do not use vaginal douches in normal labor; I am unable to give their results in figures, but they are excellent.

[1] Centralblatt für Gynecol., No. 33.
[2] Ibid., No. 20.

I could continue to give statistics and prove that parturition without prophylactic vaginal douches is safer as with this procedure, but these figures may suffice. Now, on what reasons do the adherents of vaginal douches in all cases, base their demand?

They hold that infection is due to the micro-organisms contained in all vaginal secretions; these shall act two-fold.

First, that simply through the act of labor small wounds absorb these fungi; in other words, that infection is threatened without an internal examination having been practised.

This would be contrary to all laws of nature, and out of theoretical reasons alone, it must be stamped as an impossible status. Analogous to these would be the pathogenic organisms in the oral cavity, and I believe that just as little as among millions of beings serious infection is caused by these agents, just as little will be the life or health of millions of puerperal women endangered by the presence of these microbes.

Second, that these organisms are inoculated by the aseptic finger into the abrasions which accompany every case of normal labor. This modus is possible, but as the vagina cannot and is not made sterile by vaginal douches, there is nothing gained by applying them.

Döderlein has made extensive investigations as to the character of the vaginal and cervical secretions. He said at the last Gynecological Congress in Bonn, that in the normal vaginal secretions he did not succeed in finding pathogenic bacteria, and that therefore vaginal douches were unnecessary and harmful, no matter whether internal examination has been practised or not. In pathological secretions he found in forty-six cases six times the streptococcus pyogenes. In these cases infection is possible even without an internal examination having been practised, but it is always of a mild character.

There still remains one point, which I cannot pass by unnoticed, namely, why women who have not been examined by us can yet suffer from puerperal infection. This may be due: 1. That the woman has inoculated herself with her own fingers, or that persons unknown to us have examined her. 2. Pathogenic organisms latent in old exudations, pyosalpynx, or abscesses, are through the act of labor again awakened into action. 3. Cases in which the vaginal secretions contain pathogenic microbes.

Thus I have stated the pros and the contras impartially and without prejudice. I have studied this subject with care, and the principles which guide me now in managing my obstetrical cases are the following:

First, I always try to avoid vaginal examinations, mainly relying upon abdominal palpation. He who has not examined a woman has surely not infected her. Second, I never make a vaginal examination except with aseptic fingers, and after a thorough cleansing of the external genitals. Third, I prescribe only vaginal douches in pathological cases, before and after operative interference. Fourth, I only operate with aseptic instruments.

One who carries this out conscientiously will practise obstetrics with satisfaction to himself and safety to his patient.

37 East Sixty-second Street.

New Nervous Diseases. — In the *Gazette Hebdomadaire de Médecine et de Chirurgie*, December 12, 1891, Dr. Paul Blocq has a review of a book by G. André, on the new nervous diseases, such as syringomyelia and Morvan's disease, the new types of amyotrophia, polyneuritis, astasia abasia, pseudo-chorea, neurasthenia, paramyoclonus, Thomsen's disease, acromegalia, essential paroxysmal tachycardia, etc. Neuro-pathology has made giant strides during the past ten years The volume in question Dr. Blocq thinks really fills an actual want, for the progress of late in the knowledge of nerve abnormity cannot possibly be condensed in any treatise, and merits consideration by itself.

Progress of Medical Science.

The Treatment of Ileus.—Dr. Aufrecht attributes the sudden arrest of vomiting when the stomach is distended, to a dislocation which is produced by the distended intestine forcing the œsophagus against the edge of the opening in the diaphragm through which the œsophagus passes. In stercoraceous vomiting, repeated washings of the stomach will not only act beneficially by removing the contents, but will prevent injury from absorption. Morphine, hypodermatically, is advised in all cases of ileus, and large enemata have been abandoned.—*Therapeutische Monatshefte.*

Treatment of Pertussis.—Dr. Hellet says that under the influence of ozone inhalations, lasting a quarter of an hour each day, the number of attacks diminishes, the general condition improves, and the appetite returns in a few days. Dr. Chibret claims that by sprinkling powdered iodoform over the pillow on which the child sleeps, the attacks of coughing are quickly arrested. Dr. Galvagno employs the following formula:

℞. Resorcin,
Antipyrin ..... ää gr. xv.
Acid hydrochloric. ..... gtt. x.
Syr. simp. ..... ʒ j.
Aqua dest ..... ʒ iij.

of which from three to five teaspoonfuls are given daily. The average duration of cases thus treated does not exceed fifteen days. Dr. Noevius advises an infusion of thyme (100 parts to 700 parts water) to which are added 50 parts of syrup of marshmallow, and of this from a teaspoonful to a dessertspoonful is given eight or ten times a day, according to the age of the child.—*Bul. Gén. de Thérapeutique*, November, 1891.

Screw-worm Disease.—In 1883 Professor Snow called attention to some peculiar cases which had come to his notice, where larvæ of the *Lucilia macellaria*, commonly known as the screw-worm fly, were deposited in the nostrils of patients suffering from catarrh. In one case over a hundred "maggots" were taken from the nostrils, in another over three hundred were removed. This patient died, and it was found that the hyoid bone was destroyed, the nasal bones were loose, and the vertebræ entirely exposed. In the third case, which also proved fatal, the larvæ had entered the Eustachian tube. Two of these cases occurred in Kansas, and according to recent reports the disease has again made its appearance in that State, as well as in other parts of the West. Dr. Moore reports an instance in the *Kansas Medical Journal*, October, 1891. Larvæ were discharged or removed from the nostrils of a young man who worked in a stock-yard, during ten days, until the number reached 310. The most effective treatment was found to be equal parts of mercurial ointment and vaseline, melted, and while hot sprayed into the nose with an acme atomizer. Dr. Allingham puts on record in the *Occidental Medical Times*, November, 1891, still another instance, this time occurring in Bishop, Cal., in which an accumulation of maggots in the nasal cavities produced symptoms simulating meningitis. Four days before the attack the patient had been awakened by a fly entering her nose. This was removed after some effort, and found to be a large "blow fly." In this case kerosene was injected by means of a post-nasal syringe, and after five days' treatment about two hundred full-grown maggots had been secured and recovery rapidly followed. This patient, like all the rest, had for some time suffered from nasal disease, having an offensive ozæna which no doubt proved attractive to the fly. The great number of eggs deposited within a few minutes must have developed into maggots sufficiently large to cause pain within thirty six hours, and in four days they were about half an inch in length. Dr. Mitchell (*Medical News*, November 21, 1891) removed four large white worms, half an inch or more in length, from the auditory meatus of a negro in Madison, W. Va. They had caused much pain and a sanio-purulent discharge. The head of the worm was small, black, and hard.

Contribution to the Study of Internal Lesions after Burns.—Dr. Malvoz (*Annales de la Soc. Méd. Chir. de Liège*, November 1, 1891), found on post-mortem in a female aged nineteen, who died six weeks after a severe burn, extensive signs of diphtheritic enteritis of the small intestine. In both kidneys there were numerous pus collections. Here and there were portions of necrotic kidney-tissue surrounded by pus. In the latter, as well as in the exudation from the intestine, were found masses of streptococci having the microscopical appearances of the streptococcus pyogenes.

Laparotomy for Intestinal Perforation in Typhoid Fever.—Dr. Van Hook (*Medical News*. November 21, 1891) concludes an article based upon a successful case of laparotomy as follows: 1. There is no rational treatment for perforation in the course of typhoid fever, except laparotomy. 2. The indication for laparotomy when perforation occurs in typhoid fever is imperative. 3. The only contra indication is a moribund condition of the patient. 4. Collapse is often at least temporarily relievable by hot peritoneal flushing. 5. The stage of the fever is not to be considered as an indication or as a contra-indication for laparotomy. 6. The severity of the typhoid fever is alone not a contra-indication. 7. Early laparotomy offers the most hope. 8. The symptoms of peritonitis should not be awaited before operating. 9. In taking charge of all typhoid fever patients, it is the physician's duty to be ready, in case of perforation, to perform laparotomy. 10. The published statistics of laparotomy for this condition are strongly in favor of operation. 11. The technique, though not complicated, demands much thoughtfulness, acquired dexterity, great rapidity, and thoroughness.

Resorcin is recommended by Dr. Menche not only in the diarrhœa of young children but also in the various forms of gastritis, a tablespoonful of a two per cent. solution being the adult dose. It has also been successfully employed in the sickness of pregnancy, sea-sickness, and peritonitis. It appears to exert an anodyne action on the gastric nerves, and in larger doses upon the central nervous system. Four-grain doses produce quiet sleep in general nervous excitability and in the insomnia of typhus and phthisis.—*Centralb. für klin. Med.*

Digitalis in Pneumonia.—Fikl has treated, during the past year, fifty-nine cases of pneumonia by the administration of digitalis (Petresco's method) without a death. At first the digitalis was given in daily doses of thirty grains, or seven ounces of infusion, and this proving harmless was increased to forty-five grains daily. Morphine or chloral at night were the only other drugs employed, but alcohol was freely given. The beneficial effects were very marked, but vomiting was not infrequent, and in two cases mental effects were observed. He regards the use of digitalis as of undoubted efficacy in pneumonia.

The Fever of Chronic Rheumatism, with its evening exacerbations, Kahler thinks should be kept in mind when we have to deal with obscure febrile states. It is more or less intense and quite constant.—*Zeitsch. f. klin. Med.*

Toxic Effects of Salol.—Dr. Dérigrac (*Soc. méd. des Hôpitaux*) has observed painful phenomena referable to the stomach, diarrhœa, vertigo, weakness of the limbs, elevation of temperature, back urine (in which the perchloride of iron test showed the presence of salicylic acid), after three doses of salol of twenty centigrammes each, in a woman suffering from acute gastro-enteritis. These symptoms might have been referred in part to the disease rather than to the drug, but a subsequent admin-

istration of salol brought on the same train of derangements. In a child of twelve years a ten centigramme dose three times repeated produced the same accidents.

The Antipyrin Habit.—Dr. Combernale relates in the *Bull. méd. du Nord*, No. 12, 1891, that a servant girl suffering from polyarticular rheumatism of long duration was treated with antipyrin, which she took in dose of fifteen grains daily, and this amount was increased to thirty or forty five grains on her day of fatigue. Without this excitant she suffered from general depression, stiffness of the fingers, and swelling of the feet. For this reason she continued to take the drug regularly for four years. At the expiration of this time she showed signs of round ulcer, with pharyngeal cough, general muscular weakness, nocturnal agitation, insomnia, and amenorrhœa. The drug was left off gradually and all these symptoms progressively disappeared.

Spermato-cystitis.—In a paper on inflammation of the seminal vesicles, Dr. Lloyd (*The Lancet*, October 31, 1891) submits the following conclusions: 1. That spermato-cystitis, although seldom recognized, is not uncommon. 2. That it is in many ways analogous to salpingitis in women. 3. That it is usually secondary to urethritis. 4. That suppuration is exceptional. 5. That when suppuration occurs the pus should be liberated by incisions made from the perineum. 6. That it frequently accompanies epididymitis. 7. That it is usually diagnosed as inflammation of the prostate or neck of the bladder. 8. That diagnosis can be easily made by careful digital examination from the rectum.

A New Variety of Tropho-neurosis.—Drs. Hallopeau and Jarat report a case of tropho-neurotic skin affection, characterized by dyschromia with lichenoid eruptions surrounding the achromic plaques, which differs from any previously described disease. Their conclusions are: 1. There exists a dermatosis characterized by achromic plaques surrounded by a zone of papules and by an exaggerated pigmentation. 2. This dermatosis is very probably a cutaneous manifestation of hysteria. 3. The lichenoid papules may be of tropho-neurotic origin. 4. They are not necessarily related to pruritus. 5. Cutaneous electrization by means of faradic baths seems to be indicated in such cases.—*Revue Internationale d'Electrothérapie*, October, 1891.

New Forms of Treatment for Enuresis. — Various suggestions have recently been made as to the proper means of preventing and curing that disagreeable and often distressing condition known as eneuresis nocturna. It is more than probable that the cause of the trouble is to be sought for in widely differing directions. Thus in one case it may be an excess of carbohydrates in the food, too much meat, or a diet keeping up too great an acidity of the urine. In a second it may result from some debilitating disease through which the patient has passed, or depend upon some inherited predisposition. As local causes, Ollivier has cited abnormalities of the prepuce, phimosis, balanitis, urethritis, vulvitis. and thread-worms in the rectum.

Dr. Kupke thinks it possible the incontinence is often the result of a weakness on the part of the spinal cord, which loses its power to transmit to the brain the impression of distention in the bladder. On the other hand, we must also admit that an anæsthetic condition of the sensitive nerves of the bladder can occur, by reason of which the micturition centre of the spinal cord is only feebly made aware of the need to urinate. Kupke expresses the opinion in the *Allgem. med. Central Zeitung*, that Guyon's method of electrization is most rational. This consists in introducing into the urethra, as far as the membranous portion, a metallic sound to which an electrode is attached, the other electrode being placed over the pubes or the perineum. The electric current should be quite weak at first.

Unverricht's method is to place one of the poles over the vertebral column, and the other on the symphysis pubis. In the cases which are by far the most frequent —where there is no organic affection—the author employs simultaneously faradization and internal medication, giving the fluid extract of rhus aromatica in doses of from five to fifteen drops according to age, administered twice a day in milk, and continued for three or four months. Electricity is to be given twenty or thirty times, not over five minutes at each sitting. His favorite plan is to keep the anode against the spinal column at about the lower dorsal or upper lumbar region, while the cathode is brushed over the whole bladder region.

Gaudez, in his *Thèse de Paris*, 1891, says that antipyrin gives good results in essential incontinence. He gives it in *cachets* or in Vichy water from a gramme and a half to four grammes, divided into several doses to be given at two-hour intervals, preferably at six and eight o'clock in the evening.

Koerner (*Centralblatt für klin. Med.*) says that the patient should always be examined during sleep, to see if mouth-breathing denotes obstructed respiration, as he has found this a frequent cause of enuresis. Enlarged tonsils or other faulty condition in the upper respiratory passages should receive attention. Dr. William Perry Watson's plan of treatment consists in administering atropine in the following way: One drop of a solution containing one grain of atropia sulphate in an ounce of distilled water is given for every year the patient is of age, at 4 and 7 P.M. This plan was recently carried out in twelve chronic cases at the New York Infant Asylum. Slight physiological symptoms were produced in three of the little patients. After six weeks' treatment slight improvement was noted in four, seven were well at the end of the fifth month, and nine a month later; these had remained well. Five cases, including three girls, the only ones given the treatment, were but slightly improved at the end of the fifth month, but by the end of the eighth these wet their beds not oftener than twice a week.

During the tenth month there was only an occasional wetting, and the dose was now reduced one-half. At the end of a year's continuous treatment, there was no longer any wetting among the twelve, and six months after the atropia was stopped no return of enuresis had taken place.

Dr. Sänger has found good effects from the mechanical method of introducing a metallic catheter into the bladder of female children, making firm pressure backward and to the sides several times while the thumb covers the aperture of the instrument. Ten to twelve sittings are said to be usually sufficient. Such a mode of treatment, it seems to us, should not be entered upon until other milder and safer ones have been tried. In all cases we should try the effect of giving but little fluid toward evening, taking up the child several times in the first part of the night, seeing to it that the bed is a firm and rather hard one, and encouraging the child as much as possible to avoid sleeping on the back. If these fail, it might be advisable in picked cases to carry out the suggestions of a recent correspondent in *The Lancet*. His remedy is the birch-rod applied before the child is put to bed, not as a punishment, but in a true scientific spirit. Six is the regulation number of strokes, and they are to be put on where they will do the most good. After the third *séance* the cure is complete. The *rationale* of the method is that it awakens in the boy (girls should be spared the indignity) a desire to avoid wetting the bed; it draws the blood to the surface for a few hours, and thus relieves the pelvic organs; it stimulates the lumbar centre, controlling micturition through the nerves distributed to the upper gluteal region; and it prevents the patient lying on his back.

Moral: Spare the rod and spoil the bed.

Salicylic Acid is said to cause a marked diminution in virile power.

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A SECRETARY OF PUBLIC HEALTH.

THE petition put forth by a committee of the American Medical Association, praying Congress to establish a Department of Public Health, is an able and interesting document. It ought to make some impression upon our legislators at Washington.

The petition acknowledges the work in public health done by the various existing departments of the Governments; it describes the field occupied by State medicine. It skilfully touches upon the subject of medical "schools" in the following way:

"The question," it says, "may arise with some person, whether such a department would subserve the interests of any particular school? We respectfully reply that amid all the apparent disparity in medical practice, there is one true, severe unity, and to attain this all true physicians are continually striving. There is no disputation in medical science about anatomy, physiology, pathology, chemistry, physics, or preventive medicine; the difference among doctors lies in therapeutics or the treatment of disease, and as in the past, so for all the future, practitioners will use a variety of remedies and in varying quantities, and there will be different modes of management of sick or injured people. With the advance in the way of education, the differences in treatment will gradually become more unified."

It recognizes the fact that the General Government's powers would be limited in many ways, but believes that the field would be large enough.

A Secretary of Public Health, we are assured, would represent the medical consciousness of the Nation, and "become one to whom we could look for the exploitation of measures that will direct continuous scientific and collective investigation in regard to endemic, contagious, and other diseases; the enlightenment of the people in sanitary ways of living; the dissemination of information respecting the most favorable places of residence for those afflicted with such chronic diseases as asthma, rheumatism, neuralgia, and consumption; the examination of food and drinks; medicinal springs; the collection and tabulation of vital statistics at large and in various localities, such as the congested areas of our great cities and among various races. He would be able to co-operate with State Boards of Health, the Signal Service, the medical departments of the Army, Navy, and Marine Service, unify and utilize their work, and thus make the Department of Public Health the repository of the most important facts that concern the comfort of the people; and his duties will grow broader and stronger in adaptability to public needs."

A Secretary of Public Health, to put the matter in few words, could, as an officer of the National Government, deal executively only with the subject of national quarantine. All his other functions would have to be those of an adviser, teacher, investigator, and co-operator. But such an adviser and investigator, with the power and dignity of the Government behind him, would wield an enormous influence for good. The establishment of such an office would at once attract such attention to hygiene, and give such prominence to its work, that advances in the education of the people and the promotion of sanitary reform would take place much more rapidly. Very few people yet understand that there is no reason why such things as measles, scarlet fever, yellow fever, diphtheria, or cholera should exist, and that in time civilized communities will stamp them out.

PARTURITION IN HYPNOTIC SLEEP.

SINCE Eve first heard that awful sentence, "In sorrow thou shalt bring forth children," pronounced from the highest tribunal upon her and her sisters, science has at times seemed determined to antagonize the biblical precept that woman must thus have her sorrows increased, and some advance has been made toward a mitigation of the severity of the punishment.

The discovery of chloroform and the application of its analgesic powers to the parturient state has made it quite possible for the child to pass beneath the pelvic arch, or, as Dr. Holmes poetically puts it, "beneath that triumphal arch through which every candidate for immortality has to pass," without causing more pain to the mother than he is conscious of experiencing himself.

Dr. Oui, of Bordeaux, is as positive as his very affirmative name would make us believe he would be on any subject, that hypnotism will produce the same results in certain cases. In the *Annales de Gynécologie* for November, 1891, this gentleman, who is the *chef* of the obstetrical clinic, relates an interesting observation in the case of a primipara with hysterical tendencies, who had been repeatedly hypnotized for the cure of hysterical coxalgia. When in childbirth, and at the moment of complete dilatation, the head resting on the perineum, and the pains being so severe as to cause the patient to cry out lustily, hypnotism was induced by closing the lids and pressing upon the globes of the eye. So long as the pressure was maintained the patient uttered no sound and the face remained absolutely calm. She obeyed, however, all instructions, bearing down when told to, and ceasing all effort on command with equal docility. A good-sized child was born and presented to the now awakened and astonished mother, who declared that she had suffered not the slightest pain.

Here, then, we have a ready method. No longer is there any need of dangerous anæsthetics. With one hand you take away your patient's senses and with the other the child. Now, for the first time in the history of medicine, is a man justified in printing beneath his name, "Children extracted without pain, fresh hypnotism every

day." There is only one drawback: the patient should be somewhat hysterically inclined, and hysteria is a condition not readily induced, nor would it be wise to induce it if we could; so, for the present at least, the method must have a limited application. Besides this, many investigators have shown that it is during the pains of labor, and especially of the expulsive effort, that hypnotism is produced with the greatest difficulty, though Pritzl is said to have succeeded in one other case.

Dr. Oui regards the condition in his case as closely allied to that of lethargy, with muscular relaxation and analgesia—the latter due to the hypnotic state, and not to suggestion.

PHAGOCYTES AND LONDON POLICEMEN.

In the Croonian lectures recently delivered by J. Burdon Sanderson, before the Royal College of Physicians, on "The Progress of Discovery Relating to the Origin and Nature of Infectious Diseases," he draws attention to the difficulty of supposing that in the spread of traumatic erysipelas the invading myriads of streptococci can be effectually opposed by the leucocytes which follow in their rear, and at the same time to a very reprehensible practice on the part of the London Bobby. He says: "A similar difficulty exists as regards the more specific infections. If phagocytes are to be looked upon as policemen, whose business it is to watch over the safety of the organism, they ought to present themselves in force wherever and whenever there is danger. Now, Metschnikoff's own observations, confirmed as well by his supporters as by his opponents, show that that is precisely what does not happen; that is, that although it is perfectly true that leucocytes take part in the local reaction to which the entrance into the organism of many pathogenic microbes give rise (they are like policemen in this respect), they neither appear at the place nor at the time that they are wanted. For if we compare the reaction which a mitigated culture produces in the subcutaneous tissue of a healthy animal with that which is evoked by a virulent one, we find that the main point of difference is that whereas in the former case, where there is no danger, our policemen assemble in force, they are either entirely absent or appear in scanty numbers where danger is imminent."

Morbid somnolence has been charged against our own guardians of the peace, but they have never yet in public been compared to phagocytes.

Many a man has resorted to the night force of the constabulary as a cure for inveterate insomnia, but once refreshed by perambulatory sleep he is ready for any emergency.

AN EXPERIMENT IN HEREDITY.

In the preface of a new book, Alexandre Dumas *fils* suggests a method at once practical and scientific of solving the vexed question of heredity. Instead of executing a condemned criminal, which really proves nothing, why not utilize him and make him prove something? Why not banish the burglar, cut-throat, or other malefactor, to some penal colony and there secure for his constant companion a depraved woman fully his equal in degradation? Why not see what such a union could produce in the way of offspring? Or rather, why not discover what could be made of the product of such an alliance, by complete change of environment, care, education, by the same attention as is bestowed upon well-born children? Removed at birth from evil influences, brought up in ignorance of its origin, and in a clean and healthful locality, where vice and crime are practically unknown to the childish mind, Dumas opines that it would be interesting and safe to leave the little one to nature and empiricism. This plan would be an instance of superior or human selection, the same human selection that, through various processes of care and cultivation, has given to the world (from crude prototypes) the rose, the apple, and man's trusty friend, the dog. Heredity, as generally understood, is purely theoretical. If the foregoing experiment in heredity should chance to result in a bright, intelligent, and upright citizen, useful and well conducted, what a glorious discovery this would be for the world, what a step in advance, what a practical refutation of original sin and the depressing fatalism of science! The idea is certainly original, and as yet untried with definite intent, for the chance children of such painfully equal unions have not had their histories recorded. For the weak environment is more than heredity. They are weak because this is so. The strong overcome the limitations of environment, they alter it to fit their measure. Children of energetic criminals might be supposed to thrive in an orderly way when transplanted and the right direction given to their activities. The only fatal thing is weakness, is stupidity. The gods themselves are powerless before it. The live dog always excels the dead lion; and the wicked man, even before he turns from his wickedness, is a more hopeful subject than the weak one.

THE GUAIACOL TREATMENT OF TUBERCULOSIS.

While we are waiting for the discovery of a specific remedy for tuberculosis that is not more dangerous than the disease itself, we may just as well look around us and see what we can do with the remedies already in our possession. There is perhaps no disease, unless it be diphtheria, for which there are so many favorite methods of treatment, and there is no disease, not excepting diphtheria, where as much disappointment is experienced in the employment of these special methods by others than their originators.

That pulmonary tuberculosis is curable, or rather that it does not always progress to a fatal termination, has been shown again and again in autopsies where the lungs present unmistakable evidences of having once been the seat of tuberculous lesions. The bacilli have obtained a lodgement at some period and have begun their ravages, but the organism, aided perhaps by hygienic or medicinal remedies, has proved itself strong enough to destroy the micro-organisms, and repair as far as possible the injury done by them. In this fact the therapeutist finds encouragement for renewed effort, and upon it he rests his hopes of ultimately triumphing over the scourge of mankind.

Among the many so-called specific remedies that have found favor in the treatment of the disease, creasote is perhaps the most frequently employed, and it has seemed

in numerous instances to have really been of considerable service. One of the first to employ this drug experimentally was Dr. Max Schüller, who as long ago as 1878 began to use it in experiments on animals. He tried a number of remedies of this class, but finally settled upon guaiacol, which is the chief ingredient of creasote, as the substance which gave him the best results. After he had made a thorough and satisfactory trial of the remedy in animals, he began to employ it in the treatment of various forms of tuberculosis in man, and has recently published his results in the form of a monograph,[1] in which he describes his method and gives in detail a list of various cases of tuberculosis of the lungs, skin, bones, and joints treated by him up to the present time.

The cases are comparatively few in number owing to the fact that he had no clinic to draw upon, but was obliged to seek his material in his own practice. One advantage of this is, however, that he had to wait several years to get a sufficient number of cases, and in consequence his earlier cases were under observation for a considerable period, giving him the opportunity of seeing that the cure was a permanent one, and not a mere temporary improvement. We cannot here refer to his cases in detail, but will give simply the results. He tabulates 100 cases of surgical tuberculosis in which guaiacol was given, and of these there were 70 cured and 16 improved, 10 passed from under observation, and 4 died. In about fifty per cent. surgical measures, such as resection, iodoform injection, etc., were resorted to, in the others the guaiacol treatment alone was employed. He gave the remedy preferably pure, in doses of two to five drops in milk, bouillon, wine, etc. In other cases it was given according to the following formula:

℞. Guaiacol..... ʒ j.
Alcohol,
Aq. menth. pip.....āā ʒ v.
Ol. morrhuæ..... ʒ jss.

M. Sig. . A tablespoonful in wine, beer, milk, or water, four or five times a day. Shake the bottle thoroughly before using.

Dr. Schüller insists upon the persevering and long-continued use of the remedy in moderately small doses, and does not think large single doses are of any special therapeutic value. Guaiacol has a very disagreeable odor and taste, yet it seldom disorders the stomach and patients grow accustomed to it, so that its use becomes less and less disagreeable, until finally it is well tolerated even if not enjoyed. An improvement was noted in most of the cases in a short time, but the remedy was continued for a long period until a cure was obtained, or until it became evident that the disease was too far advanced to hope for recovery. Almost all of the cases were of surgical tuberculosis, but in many of them there was also disease of the apex, and in these the good effects of the remedy in pulmonary, as well as in articular, tuberculosis, were satisfactorily demonstrated.

Other writers have employed guaiacol or creasote in the treatment of pulmonary tuberculosis, and many of them have reported results nearly, if not quite, as satisfactory as those obtained by Schüller. They do not prove that we have in these drugs a specific for the disease, but they do show that the remedy may be of service, and may be a cure in incipient cases where, as an English writer has recently expressed it, we have pulmonary tuberculosis but not yet phthisis.

[1] Eine neue Behandlungsmethode der Tuberculose, besonders der chirurgischen Tuberculosen, von Professor Max Schüller. Wiesbaden: J. F. Bergmann, 1891.

LEPROSY AND SEGREGATION.

The Pennsylvania State Board of Health has just caused to be circulated among physicians who would be likely to know something about leprosy in the United States, a series of questions bearing upon its prevalence, contagiousness, and the best means to rid the country of it. It is not stated what object the Board has in view, but from the fact that the Philadelphia Board of Health is said to have sent a memorial to Congress in favor of the establishment of stations for lepers in various parts of the country under Federal control, it is to be presumed that the State Board intends lending its aid in the same direction. If this most desirable end can be accomplished by combined effort, every city and State board in the country should join in the work. There are not many lepers in New York, but there are too many. It is said that the Chinaman Ong Moy, or Tsang Ding, recently arrested by the Board of Health and sent to Charity Hospital, is rapidly developing into a case of elephantiasis of the white variety. He doesn't want to stay, the other patients want him to go, the doctors don't care to have him remain, the Commissioners are not anxious to continue their hospitality, and the Board of Health would willingly remove him if they knew how or where to get rid of him.

Now, if one innocent "Chinee" can cause so much trouble, what will happen when the city is called upon, as it some day may be, to provide for a number. Besnier has just startled the Parisians by announcing that there are at least one hundred lepers within the walls of their gay capital. Is it not possible that New York may some day be equally surprised?

We have leprosy all about us, and in spite of quarantine regulations it enters the country. In Jamaica alone the estimated leper population is 450, or one leper to every 1,380 of the residents of the island, and Jamaica is not far off.

New Orleans has a large and apparently increasing native leper population, and if anything is ever to be done to stamp out the disease in the United States it ought to be done now.

Dr. Washington F. Peck, who died a few weeks ago in Davenport, Ia., was born in Wayne County, in this State, in 1842. He served as surgeon in the army during the civil war, and at its close settled in Davenport. He founded the Medical Department of the Iowa State University in 1869, and at the time of his death was Professor of Surgery and Dean of the Medical Faculty. He was also surgeon-in-chief of the Chicago, Rock Island & Pacific Railroad.

To Reduce the Evils of Prostitution.—An association has recently been founded at Buda-Pesth, the object of which is to combat the evils of prostitution, to rescue its victims, and to establish and maintain a free dispensary for the treatment of poor patients suffering from venereal disease.

News of the Week.

The Death of Dr. Daniel Ayres, of Brooklyn.—Dr. Daniel Ayres, one of the leading physicians in Brooklyn, died January 18th, at 91 Lafayette Avenue, in his seventy-second year. He was born in Jamaica, L. I. He studied medicine with Dr. David M. Reese and Dr. Valentine Mott, and received his degree at the New York University in July, 1844. He served for a short time on the medical staff at Bellevue Hospital and on Blackwell's Island. In 1845 he went to practise in Brooklyn. Some of his surgical operations attracted wide-spread notice, and he became the physician of many wealthy families. He was attached to the Brooklyn Hospital as far back as 1846, and he remained an ardent supporter of the institution to the close of his life. He was one of the founders of the Long Island College Hospital, and was its first professor of surgery. He was professor emeritus of chemical surgery in the hospital at the time of his death. In 1856, the degree of LL.D. was conferred on him by Wesleyan University at Middletown, Conn., to which he had made bequests amounting to $275.000. He was a graduate of Princeton. He contributed $10,-000 for the support of the Hoagland Laboratory, an annex to the Long Island College Hospital. His other contributions to medical and other institutions would foot up, it is said, more than $200,000. His widow and two sons, Dr. Morgan Wilcox Ayres and Dr. H. Messenger Ayres, survive him.

Medico-legal Troubles in Buffalo.—The suit of Dr. Rachel Kemball *vs.* Dr. Charles Cary, Professor of Materia Medica and Therapeutics in the University of Buffalo, ended, December 21st, in a disagreement of the jury. In August, 1888, the plaintiff was struck by a bicycle, sustaining an injury to the right hip. She has since walked mainly with the help of a crutch, claiming that the neck of the femur is fractured, and charging Dr. Cary with malpractice. Professor Roswell Park swore that he had attended her four days, and had carefully examined the hip twice, without finding any signs of fracture, before he met Dr. Cary at the plaintiff's house, and that he believed Dr. Cary had not attended the patient before that time. Professor Stockton corroborated this evidence. The plaintiff was sent to the insane asylum by Drs. Park and Cary, on account of marked maniacal symptoms. After her discharge in about two weeks, Dr. Cary attended her. The defence, adopted and supported by the testimony of Dr. Park and Dr. Tremaine (U. S. A. surgeon, retired), is the theory that the present condition of the hip was probably one of chronic arthritis. The prosecution brought forward other testimony to prove that there was an ununited fracture. Many physicians and students attended the trial. From a medical standpoint the evidence was in favor of the defendant. The plaintiff has indulged in considerable litigation with reference to her injury, having in 1888 sued a bicyclist, who proved an alibi, and having recently begun suit against Dr. Park for false commitment to the asylum.—*Cor. Weekly Medical Review.*

A New Hospital Feature for Preventing the Spread of Infectious Diseases.—The *Medical Press and Circular*, November 4th, has a description of a new hospital at Berlin, called the "Emperor and Empress Frederick Hospital." The pavilion for diphtherical patients has a peculiar arrangement which is designed to imprison the contagium of that disease, whether brought there or generated there. This pavilion is entered by what is known as the "schleuse," or sluice. No person is allowed to pass directly into the ward from the outside world, but must pass from the porter's room into the "schleuse." There the visitor must take a bath and change his clothes; the same process must be gone through with on leaving the pavilion.

New Journal.—The *Doctor's Weekly*, edited by Dr. F. King, has recently appeared and promised to be good.

Death of Mr. John Wood.—The death is announced of Mr. John Wood, F.R.S., for many years Professor of Surgery in King's College, and well known to many generations of King's College students of an early date as a teacher of anatomy.

The Surplus of the Amount collected on the occasion of Professor Virchow's seventieth birthday, after defraying the expenses originally contemplated, is 20,000 marks, which sum has been added to the "Rudolf Virchow Fund," for scientific investigation. This fund now amounts to 97,000 marks.

A Laboratory of Physiological Psychology has just been opened in the Sorbonne, at Paris. Persons wishing to make original investigations, or to acquaint themselves with the methods of research at present in use in the domain of physiological psychology, should apply to the director, Dr. A. Binet.

International Dermatological Congress.—The Second International Congress of Dermatology will be held at Vienna, from September 5 to 10, 1892. Professor Kaposi is president of the Organizing Committee. The general secretary is Dr. G. Riehl.

Poisoned Wall-paper a Humbug.— Professor Chandler's discourse at the Academy, at its last anniversary, was a sharp arraignment of Boston doctors. It is not often that one of the spokes turns on the hub in this way. It is well for the peace between the two cities that the castigation did not come from a real M.D. For while Professor Chandler is a member of a medical faculty, and once received the honorary degree of M.D., he seems never to have used it, and to always speak of himself as a layman when among doctors. He is enough of a doctor to weigh medical evidence very accurately, and to know the true value of subjective symptoms. Dr. Chandler says that the arsenical poisoning idea in Boston is a fad, and with the late Dr. John C. Dalton, himself a native of Massachusetts, he believes that the whole idea of anybody's being poisoned from wall-paper is a humbug. —*The Post-Graduate.*

A New Heart Tonic of especial value in nervous disturbances of the heart is tincture of coronilla varia, in doses of from five to fifteen drops.

The Therapeutic Gazette begins the new year under the editorial management of Hobart Amory Hare, M.D., George E. de Schweinitz, M.D., and Edward Martin, M.D.

A New Method of Securing Dilatation of the Os, in protracted labor, has been discovered by Dr. J. F. Bird,

of Philadelphia. It consists in making the patient smoke a pipe until nausea is produced. When carried beyond this point it will probably produce dilatation of the mouth, with vomiting.

The Test of a Medical College in Good Standing.—The Oregon Supreme Court has reversed the finding of the Circuit Court in the case of Barmore *vs.* the State Board of Examiners. Barmore had been refused a certificate by the board upon the ground that the Oregon State Board had adopted a rule which defined "medical institution in good standing," as used in the act, to mean "only those institutions which required three regular courses or sessions of six months each, extending over a period of three years' time," and that the school of plaintiff did not, when he graduated, have such a three years' course. The action of the State Board is sustained.

An Army Medical Board will be in session in Chicago, Ill., during February, 1892, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they are graduated, and a record of service in hospital, if any, from the authorities thereof.

Onabain is said by Dr. A. Rixa (*Therapeutic Gazette*) to be a more powerful local anæsthetic than cocaine.

The Dispensary Abuse.—The anxiety of the medical press of New York City over what is termed the "Dispensary Abuse" is amusing, especially to an outsider. It reminds us very forcibly of the old story about the man who found the frozen serpent and warmed it back to life by cuddling it in his bosom, when it promptly stung him for his pains. The medical profession of New York took the afflicted pauper in and is now being "taken in" as a return.—*Medical Fortnightly*, St. Louis.

Have We a Bogus College in our Midst? asks an esteemed contemporary. Heaven forbid! It's bad enough to have gall-stones, and other such ordinary bowel irritants, without introducing a whole college, and a bogus one at that.

The City Hospital Medical Society, formed of alumni of the St. Louis City Hospital, was recently organized in that city. It has no president, but the presiding officer is chosen at each meeting to serve for that evening only.

The Doctor and the Priest.—The omission of a "not" in the editorial item under this heading in the issue of January 16th, changed entirely the meaning of a sentence. As printed, the sentence read, "we believe any true physician . . . . would do so, and would oppose any obstacle to the free intercourse of priest and penitent." It should have been, "and would *not* oppose," etc.

Scheyne-Stock Respiration is the way a writer in *Le Progrès Médical* spells it.

Dr. Dimitrie Sergiu, of Bucharest, widely known as a writer on diseases of children, died in that city on November 9th last.

Shall Clergymen Pay the Physician for Services?—This question has come up for discussion, based upon the bill of a Brooklyn physician made against the estate of a Catholic priest for services rendered. The heirs protested on the ground that it was usual for physicians to make no charges under the circumstances. There is no reason why this should be so, however, as was very properly stated by a priest in voluntarily answering the question in a letter to one of the newspapers. We entirely agree with the latter assertion and that, save in a very few exceptional cases, charges should always be made. The physician pays the priest for the marriage ceremony, for christening, and his heirs are expected to be ready with an honorarium when mass is said at the funeral of the doctor, when his many deeds of charity are over. Nor does the physician enjoy a free pew in the church of his choice on the score of helping the deserving poor of the congregation. As a mere matter of advertisement for practice it seldom if ever pays, as the clergyman in many cases chooses a physician for himself, but for policy sake does not care to recommend one doctor more than another for members of his flock. But more than all, the services to the priest or minister are valued in proportion to the amount actually paid for them.

Singular Death-rate in the Academy of Medicine of Paris.—Of the one hundred resident members of the Academy of Medicine of Paris, five, or one-twentieth of the whole, died between November 15 and December 30, 1889. The deaths occurred in the following order: Roger, ex-president of the Academy, Féréol, Annual Secretary, Barthez Moutard-Martin, former president, and Richet (père), former president. Féréol was the youngest, being sixty-two, the ages of the others being between seventy two and eighty-four. There are however no young men in the Academy, most of the members being over sixty.

New York Pathological Society.—The following officers were elected for the ensuing year. *President*, Dr. H. P. Loomis; *Vice-President*, Dr. J. C. Thacher; *Secretary*, Dr. O. C. Ludlow; *Treasurer*, Dr. J. H. Hinton; *Editor*, Dr. G. C. Freeborn; *Committee on Admission and Ethics*, Drs. R. H. Sayre, H. D. Stearns, J. C. Ely, S. T. Armstrong.

Regulating Fees.—The physicians of Passaic, N. J., have formed an association for mutual encouragement, and have adopted a fee-bill, according to which they will charge $1.50 for day calls, and $3 for night visits—not an exorbitant charge certainly.

The Chicago Medical Society, now numbering about seven hundred and fifty members, has at last found a place where it may sit in peace and the fulness of its wisdom, at least until the buds begin to break and the spring birds come again. A hall of good proportions has been leased for a few months, and the charity of a large hotel goes unsatisfied (?). Dr. Church has ably called the attention of the profession to the need of a "medical home," so to speak, a place of general rendezvous for the medical societies and the whole profession, resident and transient, but as yet no fruit has appeared to his sowing.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 15, 1891.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

A Study of the Processes which Result in the Arrest or Cure of Phthisis, was the title of a paper read by DR. H. P. LOOMIS. (See p. 29.)

DR. J. WEST ROOSEVELT said that from a clinical standpoint it was very important to remember that healed phthisis is not (clinically speaking) phthisis. It was not the kind of phtnisis which came under our notice in practice. Doubtless we all saw cases of phthisis which we did not diagnosticate, and there was no reason why we should do so. In incipient phthisis, it was well known how very difficult it often was to make a diagnosis, and there were in all probability many cases of phthisis which recovered without coming under the physician's care at all.

Dr. Loomis had referred to the great frequency with which pleuritic adhesions were found in the cases examined by him after death (thirty-six per cent.). Clinically, nothing like this percentage was noticed. He hoped that the doctor would succeed in throwing some light on the lymphatics of the lungs, as hitherto it had seemed utterly hopeless to try to understand the pulmonary lymph-currents. He did not understand why Dr. Loomis held that the pleuritic fibrous adhesions should be considered as secondary to phthisis. It seemed to him that they were merely a part of the phthisical process.

The Chairman, DR. DELAFIELD, said that in his paper Dr. Loomis had given an exact and complete description of the conditions which anyone accustomed to making autopsies constantly meets with. For some time he had believed that the reason for the apparent discrepancies which so often exist between the clinical history and the post-mortem appearances was this, that we have got so much in the habit of regarding all tuberculous inflammations as very serious, if not absolutely fatal. Whereas, it was unquestionably true that a tuberculous inflammation, if it occupied only a small area in the body, could be a very little matter; provided it remained confined to a small part. He was convinced that a large number of persons have a very small tubercular inflammation of a small part of the lung which never even makes them sick. The inflammation runs its course, and they recover from it; afterward, when they die from some other cause, the evidences of the previous tuberculous trouble are found at the autopsy. When larger areas were involved the inflammation might run its course also, but so much of the lung would have been implicated that such persons could hardly be called very healthy. There would be no longer an active inflammatory process, but the lung would always remain more or less damaged.

As regards the healing of tuberculous lungs by the formation of new connective tissue, this was a question of very great importance. The presence in the lung of tubercle bacilli was itself of no consequence. But the bacilli were of consequence when they had excited an inflammatory process. This process either went on to death or underwent healing. These things might happen: 1. We may have a simple exudative inflammation, with the formation of its characteristic products; and all this exudation may be absorbed and disappear from the lung. 2. We may have the formation of new connective tissue; and such tissue has very little tendency to disappear. On the other hand, it has a tendency to become changed into a denser connective tissue.

This did not seem to him to be a barrier to further tuberculous trouble, as Dr. Loomis had contended. The only thing that could happen was that it could be changed to new connective tissue, and it was not, in his opinion, a source of protection against tuberculosis. The paper was a genuine "dead-house paper," and it contained an accurate description of a very real thing. The only question was as to how that real thing was to be interpreted.

Exact Records of Physical Signs, was the title of a paper read by DR. CHARLES E. QUIMBY.

DR. FRANK W. JACKSON said that he could not agree with the author of the paper, as to the relative importance of pitch. In determining the variations in physical signs he did not think that the condition present was best demonstrated by the pitch; but that the quality of the sound heard was of just as much more importance than the pitch, than auscultation was of greater value than percussion. Quality was, in his opinion, the important element. In an orchestra, all the instruments were tuned to the same pitch, but it was the individual quality of each instrument which was its distinguishing characteristic. He did not think that the essential differences in sounds heard are recognized by the pitch. For instance, abdominal tympanites had a high pitch. We might get the same in percussing over the lungs. Yet the most inexperienced examiner would have no difficulty in distinguishing between the two sounds, which were very different in character. It was, therefore, the quality by which each was recognized. Dr. Quimby had stated that in pulmonary emphysema Dr. A. A. Smith described the note as high in pitch, because he heard the sound at the chest-wall, while Dr. Loomis described it as low in pitch. because he heard only the lung sound beneath. It did not seem clear why the examiner should not differentiate between these two notes.

DR. QUIMBY said that he had evidently failed to make himself understood. The matter was simply this: We were all the time talking about pitch, and what he suggested was that we should write the pitch down, so that there would be some exactness in our records. In regard to emphysematous percussion, there were two distinct notes, and they could be readily differentiated. There was, first, the surface note, and second, the resonant note from the amount of air contained in the whole chest-cavity. Each note had its peculiar pitch, and this could be readily illustrated by striking a kettle-drum on the wood. In the paper nothing was said about quality, or other characteristics of physical signs.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 28, 1891.

GEORGE H. FOX, M.D., PRESIDENT, IN THE CHAIR.

The Therapeutic Results of Direct Electrization of the Stomach.—DR. MAX EINHORN referred, in the first part of a paper bearing this title, to one previously published in the MEDICAL RECORD, describing the method which he employed in electricizing the stomach.

DR. A. D. ROCKWELL said that during some months past he had treated several cases by direct electrization of the stomach in the manner described by the author, yet thus far he could not say that it had shown much advantage over the external method. It could hardly be called direct electrization, since the electrode did not come in direct contact with the mucous membrane of the stomach, but exerted its influence through the fluids. More recently he had tried, with some satisfaction, the bipolar method, or that by introducing both electrodes into the stomach. It required greater caution than the other method, since the same current produced a much greater effect.

Clinical Remarks on Acute Pulmonary Œdema.—The discussion on the two papers read at the last meeting of the Society was continued. DR. H. N. HEINEMAN first spoke upon Dr. A. A. Smith's paper on acute pulmonary œdema, stating that he did not think all the different causes of all the different varieties of acute pulmonary

œdema had yet been established. A vaso-motor neurosis would account for only a part of the cases, and he must disagree with the author if it were held that the heart was not at fault in some. Without going into the particulars regarding treatment, he might state in general that it must differ according to the cause.

Dr. W. H. Porter thought disturbance of innervation relating to the respiratory act, and consequent deficiency in aspiration force which was so important a factor in clearing the lymphatics, had much to do with acute pulmonary œdema. Where this was a cause, dry-cups, quickly and forcibly applied, would do good by their reflex influence. He agreed with Dr. Heineman, that no one mode of treatment could be relied upon for all cases.

Dr. A. Jacobi said the class of cases of acute pulmonary œdema which had come under his observation must have been of a more threatening nature than those referred to by Dr. Smith, who had spoken of repeating doses of certain medicines only once in two hours. Many of these patients might die within two hours, some within fifteen minutes, and, therefore, something very effective had to be employed. If strychnia were to be given in doses of one-fiftieth of a grain he would certainly agree with Dr. Kinnicutt, and repeat it in fifteen or twenty minutes instead of waiting two hours. In some cases of myelitis, polio-myelitis, and one of hemiplegia, he had given as much as one-fifth of a grain of strychnia hypodermically without any signs of poisoning.

Regarding digitalis, he believed the author had objected to it in pulmonary œdema because it acted on the arteries, and propelled the blood into the veins. This objection seemed to him without weight, for it was by driving the blood from the arteries into the veins that we also caused it to pass from the veins into the arteries. In other words, the circulation was kept moving, which was desirable. But to produce any effect it must be given in large doses, say ten drops of the fluid extract. Where there was a strong bounding pulse, venesection might do good. Pilocarpin might be useful. And if one could wait two hours for the effect of a drug in these cases, as the author would seem to think, he saw no reason why a strong cathartic might not prove useful. The hot pack might be beneficial in bringing on diaphoresis. Besides heart-stimulants and vaso-motor stimulants already mentioned, he spoke favorably of the effect of caffein used subcutaneously, say in the form of the salicylate. He did not doubt but what acute pulmonary œdema was due, at least sometimes, to a vaso motor neurosis.

Perityphlitic Abscess.—The discussion on Dr. McBurney's paper on "The So-called Simple Incision in Perityphlitic Abscess," read at the previous meeting, was continued.

Dr. A. Jacobi would substitute the term timely operation for that of early operation, for the simple reason that, according to surgeons themselves, what would be considered a proper time to operate in one case would be too late in another. By speaking of the need of an early operation, some surgeons less experienced than others might be misled to interfere early, when one more experienced would very properly wait a day or days longer, and give the patient a better chance. Then there were many cases, which in the beginning could not be diagnosticated exactly, which would get well without interference. The combined judgment of physician and surgeon was called for.

Dr. H. N. Heineman mentioned a case in Roosevelt Hospital, in 1874, that of a woman who had a perityphlitic abscess point posteriorly, yet the entire staff failed to recognize its true origin until it was discovered at the autopsy, three or four years later. He agreed with Dr. Jacobi that the word timely was better than early or late, as expressing the time when an operation should be performed in perityphlitic abscess, for the reason that, as Dr. Delafield has shown in the case of pneumonia, the rapidity of the pathological changes varied in different cases.

Dr. W. Gill Wylie agreed with Dr. McBurney, that an operation should be performed early where it could be determined that an abscess had probably formed. Where one waited and made the so-called simple incision, failing to go further and break up, as might be called for, adhesions or remove a slough, there was danger of subsequent intestinal obstruction. If a slough were to form, or rupture take place into the free cavity while waiting until a simple incision could be made, death would almost surely result.

Dr. McBurney approved of the use of the terms timely and untimely, but they were not necessarily opposed to those of early and late. He did not agree with Dr. Wylie, that signs of pus-formation should decide the operation. The appendix might be gangrenous without pus-formation; the patient might be gravely ill and no pus be found. He would be guided by the judgment of both physician and surgeon, and operate where the patient was evidently seriously ill, rather than be controlled by the evidence of the presence of pus. He hoped the practice of aspiration to determine the presence of pus would never be renewed.

Dr. Wylie thought he had been misunderstood. He thought we should always operate where there was pus. But of course there might be other indications for opening the abdomen. He thought the apparent seriousness of the patient's condition could not alone be taken as a guide, for he had sometimes found pus when the patient's condition in general seemed rather favorable.

Ophthalmologist's Antiseptic Cap.—Dr. G. E. Abbott thought that ophthalmologists were not quite as exacting in antisepsis or asepsis as were gynecologists, else they would insist on having the field of operation thoroughly shut off from the surrounding parts which did not permit of thorough disinfection. He, therefore, presented them with a thin rubber cap to be drawn over the patient's head, covering the hair.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 21, 1891.

The President, S. B. W. McLeod, M.D., in the Chair.

The Non-contagiousness of Leprosy.—Dr. L. Duncan Bulkley read a paper with this title. Up to fifty years ago, at least, one presenting a paper on the subject of the non contagiousness of leprosy would have had no listeners, so widespread was the belief in the contagiousness of the disease. Even to-day, among many people the presence of a patient with leprosy would excite more fear of contagion than a case of diphtheria. This view seemed to prevail not alone among the laity, but to some extent also among physicians. It was the author's purpose to present such facts as had come under his observation bearing on the subject of the contagiousness or non-contagiousness of leprosy.

To account for the widespread belief in the contagiousness of the disease he referred to the biblical statements concerning it, its wide diffusion throughout the world, and failure heretofore to account for the spread of the disease in any other manner.

First, with regard to the biblical accounts, he said that no conclusions could be based regarding the contagiousness of leprosy thereon, for it was certain that at least five or six different types of cutaneous affections were included under this term, some of which were highly contagious and others were not. Nor could more reliance be placed on the statements contained in early literature. Further, with regard to its widespread diffusion, it might be said that malaria was quite as widespread, and yet was not contagious; the same was true of cancer, sarcoma, etc. It might be stated without hesitation that the spread of leprosy did not in any part of the world correspond in manner with the spread of any of the contagious diseases; where the

disease was not endemic it showed no special tendency to spread. For instance, English observers were positive that not a single case of communication of the disease had ever taken place there. In our own country leprosy was not very uncommon; every hospital in this State probably had had one or more cases under treatment; he had personally seen several; the diseased parts had been freely handled by both physicians and inmates of the hospitals, yet in no case could it be asserted that contagion had arisen. Evidence of this character of the non-contagiousness of leprosy could be obtained in all parts of the world.

Regarding the well-known case of Father Damian, he quoted the opinion of Dr. Rigg, of Trinidad, now chairman of the English commission to investigate the subject of leprosy in India, to the effect that, to his mind, the contagious origin of the disease in this case was far from conclusive. He may have imbibed the leprosy germ in water, food, or air. A sister had lived in the same leprous colony since 1858, and was still active and in good health. Dr. Rigg himself had never come across a case due to contagion.

It was true that cases had been reported here and there where persons were said to have contracted leprosy by contagion, but so far as the author had been able to ascertain, they were not supported by direct facts. One case had been reported in which an attempt had been made to inoculate the person with leprosy, and it was said to have proven successful, but later it had been found that this person had a cousin and an uncle afflicted with leprosy, so that heredity may have played the part.

The absence of any satisfactory explanation for the spread of the disease except by contagion, had also favored the theory that it was transferred from one person to another. But it might be remarked that not many years ago scurvy was considered contagious, owing to its rapid spread among all on board a vessel. But now this disease was known to be due to absence of vegetable food. Trichinosis was also once supposed to be contagious. but at present was well known to be due to a parasite.

The author here referred to the germ theory, and stated that the bacillus of leprosy had been found in patients in all parts of the world. Where it had apparently been absent there probably had been some failure in the technique. Race, climate, soil, had apparently no relation to the disease. Hygiene seemed also unable to account for its causation in the first place. Heredity was at one time supposed to be the general way in which the disease arose, yet the number of instances where children born of leprous parents had escaped was very considerable.

Coming to the question of diet, it would seem, as Jonathan Hutchinson had shown, that only one article of food was used the world over, namely, fish. The argument which this well-known author had advanced in favor of the fish theory was very strong. Leprosy appeared in all parts of the world indifferently, yet the largest number of cases were to be seen on the islands of the ocean and along the seacoast. Further, it was believed to exist more among that class of people who ate their fish nearly raw, in a partly decomposed state, or preserved. It was not impossible, too, that bacteriology would prove the development of the germ of leprosy in the flesh of fish under certain conditions. The author thought, at any rate, that this offered a more satisfactory explanation of the development of the disease than the theory of contagion. While, of course, it was not impossible for the disease, if it were due to a germ, to rise by contagion, yet the degree of contagiousness must be extremely small, and could not apply in certain instances which had come under his observation. He had seen two or more patients in whom leprosy had developed in this country, and who had never come in contact with any other leprous person. He also mentioned, as a not unlikely source in a few instances, vaccination. In the case of Father Damian, he thought the probable source of the infection was through mosquito bites.

His conclusions were: 1, that there was no warrant for the popular theory that leprosy was a contagious disease; 2, the disease was not contagious in the ordinary acceptation of the term, or as that word was applied to small pox, syphilis, etc.; 3, it was probably due to the presence of a bacillus; 4, there were strong reasons to suspect that this bacillus might be introduced into the system by way of food, especially fish; 5, there was evidence that the disease might under favorable conditions be transferred from one person to another; 6, heredity probably accounted for a share of the cases; 7, there was no necessity for segregation; 8, there was far more reason for placing restrictions about patients with syphilis and tuberculosis than about those suffering from leprosy.

The paper was discussed by Drs. Coan, Fernandez, and L. L. Seaman, who in general seemed to agree with the author.

Tracheotomy without the Use of the Tube.—Dr. Edward von Donkoff read the paper. He had for seventeen years performed tracheotomy without the use of the tube and cannula in ordinary cases. This was on account of the difficulties and dangers attending the introduction and wearing of the cannula. Who had not seen diphtheritic material pushed down by the cannula, particularly when introduced by a novice? Who had not known of sad results from failure on the part of attendants to secure prompt removal of the obstructing material which might enter the opening when the cannula was worn? Consider also the ugly wounds and scars which had at times resulted from wearing the tube. In short, except in special instances, he could not understand why the use of the tube should be persisted in.

The author kept the opening patent simply by ligature, one on each side, fastened behind the neck. There was no danger from undue tension. Very little after-management was required. The watchman was given a dull forceps with which to remove any membrane which might present itself at the opening.

Etiology of Hernia.—Dr. Thomas Manley presented a specimen obtained in a case of strangulated inguinal hernia. The operation was followed by recovery. He remarked, as to the etiology, that he had never seen a case, in young or old, where the adhesions of the sac were not marked; which led him to believe that the way for the future hernia was always paved with the descent of the testis, although actual protrusion might not take place at that time.

Dr. Manley also presented a portion of hernia and the uterus containing fibroids, from a case of very large ventral hernia which had followed a laparotomy performed by some surgeon four years before. Great difficulty was experienced, in operating for the hernia, in returning and keeping the intestines in the abdomen. During the operation some uterine fibroids presented through the opening, which he shelled out. The patient died, and at the autopsy the uterus was found to contain many fibroids, and it was his belief they might have been removed successfully per vaginam at a subsequent operation, and thus the patient would have stood a better chance of recovery.

Quinine is Too Cheap.—Dr. Keen says that we are becoming a nation of quinine eaters, and he attributes the growth of the habit to the fact that the drug is so cheap.

Remarkably Condensed Description.—The writer of an article on "Errors in Diagnosis," in an English medical journal, managed to embrace the whole subject in only three thousand words.

A Case of Hysteria in a Child Six Years Old is reported by Dr. Bailton in the *Lancet*, No. 3,554. The nervous symptoms followed an attack of influenza.

Clinical Department.

DOUBLE SYNCHRONOUS THIGH AMPUTATION FOR GANGRENE IN A CASE OF CHRONIC NEPHRITIS—COMPLETE RECOVERY.

By R. CRAIG FALCONER, A.M., M.D.,

LEXINGTON, KY.

CAREY C——, colored, aged fourteen, was brought to St. Joseph's Hospital, May 5, 1891, with the following history: He was a healthy, robust boy until October 4, 1890, when he was taken sick with pneumonia, kidney trouble supervening, the illness lasting about two months. Three weeks after convalescence his feet and legs began to swell, and were, the boy's father states, pricked with needles to allow the fluid to escape. But they continued to go from bad to worse till they became enormously swollen and "shone like glass." His feet and legs were next bathed in some domestic lotion—I believe made of mullein weeds—and according to his father's statement the swelling subsided and the feet and legs turned black. Then a sore developed on the right knee-cap, subsequently another on the inner aspect of right knee-joint. When I saw the boy for the first time, in the forenoon of the aforesaid day, his feet and legs were extensively gangrenous and infested with swarms of larvæ. His left leg, from the sole of the foot nearly to the upper third of the thigh, looked as though it had been charred, while his right leg was in a somewhat similar condition and almost disarticulated at the knee and ankle joints; the tibia and fibula being bared for half their lengths. He was emaciated to a marked degree, and still had a cough. Kindly assisted by Drs. W. A. Brock, D. H. Keller, Milton Edmonson, and T. A. Jones, I amputated both thighs, the left one at the upper third and the right one at about the junction of the middle and upper third. As soon as I had transfixed one thigh, arrested hemorrhage, secured flaps, and inserted drainage-tube, Dr. Keller did the suturing, while I proceeded to amputate in like manner the other thigh. The operation, which lasted about three-quarters of an hour, being finished, and the stumps dressed with iodoform sublimate gauze and cotton, I gave the patient a hypodermic of whiskey, had him wrapped in blankets, and placed in bed surrounded by hot bottles. Ether was the anæsthetic used, as we found that the patient could not bear chloroform. He reacted from the etherization in due time and was bright and cheerful. In the evening, about three hours after the operation, his pulse was 120, temperature 101° F.; there was slight oozing of blood from the right stump. On the following morning his pulse was 130, temperature 103⅘° F. The dressings were removed and the stumps irrigated with carbolized water. His pulse, from the day of the operation to about twelve days afterward, varied from 120 to 140, and his temperature from 101° to 105° F. The pus was not as abundant as we might expect to find it in such a case where the tissues were so diseased. Drainage continued good, and the tubes were removed about the twelfth day after the operation. While there were both retraction and sloughing in each stump to the extent of exposure of the bones, this process progressed to a greater degree in the left stump than in the right one. To-day both stumps are entirely covered by sound and healthy tissue, and the boy is perfectly well, going to school every day, and weighs much more than he did just before the operation, if not more than ever. At present he has no albuminuria. As a tonic I gave him syrup of albuminate of iron and quinine.

Counterfeit Mummies.—Seventeen mummies, recently purchased at a cost of $200,000 by the Berlin Museum, have been shown to be of recent manufacture and the handiwork of some wily Arabs of Alexandria.

A CASE OF POISONING WITH PHENACETINE.

By A. M. FERNANDEZ DE YBARRA, M.D.,

PHYSICIAN TO THE NORTHERN DISPENSARY, NEW YORK.

ON December 19, 1891, I was called to attend Mrs. V——, the janitress of the flat house where I live, who was suddenly taken very ill. The husband of the woman told me she had drunk some porter and beer the night before, and when she awoke in the morning felt an intense headache. He went to a neighboring drug store and asked for some "headache powders" for his wife. He got three of them, and as soon as he reached home he dissolved one in a little water and gave it to the sufferer. No relief of the headache following, he gave, a quarter of an hour after, a second powder. Five minutes later he was surprised to see his wife in convulsions, and complaining of a terrible pain in her heart.

When I saw the woman she was pale, cold, and perspiring profusely, with both her hands over the precordial region, the respiration very much reduced in number, pulseless, and voiceless.

Suspecting an overdose of antipyrine, I asked the husband to let me see the so-called "headache powders," and sent him to the drug store with my professional card to find out as soon as possible what they were made up of, and the quantity of the ingredients in each powder.

The drug clerk said the powders contained "only phenacetine," and ten grains of it each.

All the toxic symptoms seeming to me very much like those produced by chloroform narcosis, I gave the patient a few inhalations of nitrite of amyl, and administered the necessary antidotes to combat the depressive action on the heart; but not until an hour after could I feel sure that the danger was over.

This clinical case illustrates three very important points, viz.: 1. That phenacetine is not so harmless as usually believed; and if we stop to think for a moment, we shall see that the certainty and great rapidity with which it acts as an antipyretic, and its prompt and striking action as an analgesic, clearly indicate its powerful effect on the heart. A French authority has already pointed out that all heart-tonics are heart poisons. 2. The unreliability of proprietary articles, which, by becoming popular, may give rise to unscrupulous imitations. 3. The very bad custom among druggists of prescribing themselves powerful drugs, with whose therapeutic actions even the professional mind is not yet entirely acquainted.

140 WEST TENTH STREET.

A CASE OF ERYSIPELAS.

By G. TUCKER SMITH, M.D.,

U. S. NAVY, MARE ISLAND, CAL.

AN interesting case of this disease came under my observation last summer, of which I submit a brief clinical outline.

D——, machinist, aged thirty-one, native of America, weight one hundred and eighty pounds, family history and previous health good, presented himself for treatment July 20th. Two days before, while at work in the engine-room, he slipped and fell, striking his left hand on a sharp rusty nail and sustaining a deep lacerated wound of the thenar eminence. This was cleansed and dressed soon afterward. The wound now looked indolent and unhealthy and caused a sharp pricking pain. It was irrigated with a bichloride solution, and a layer of bichloride gauze buttered with vaseline put on. Temperature and pulse normal, bowels open.

July 21st.—The pain continuing, the dressings were removed. The wound presented the same appearance, but a typical erysipelatous blush could be seen spreading from its margin upon the forearm. The eruption was dusted with zinc oxide and the arm swathed in antiseptic gauze. Tr. ferri chloridi, ℥ xxx., ordered every two hours. Temperature and pulse normal.

July 22d.—The eruption extended itself with great rapidity, involving the whole circumference of the forearm with its upper margin at the elbow-joint. Numerous blebs, both single and confluent, appeared, with a copious watery discharge. The œdema was considerable, but firm on pressure, and, though repeatedly taken, the temperature and pulse remained normal.

July 23d.—The upper margin reached as far as the middle of the arm, but the disease now took a downward course, involving the whole hand. The discharge became simply enormous, saturating the dressings and bedding and wetting the deck below his cot. The heart's action here commenced to lose its force, the pulse becoming slower and weaker. Milk-punch and nourishing diet were ordered, and dressings of equal parts of camphor water, ether, and laudanum had a soothing effect.

July 24th.—The pain becoming almost intolerable, and detecting for the first time that the swollen limb was less tense on pressure, a number of free incisions were made over the dorsum of the hand and forearm, affording almost instant relief. The discharge continued free, but there were no evidences of pus, showing absence of phlegmon. Temperature normal, pulse very weak, the patient fainting while the dressings were being put on.

July 25th.—The adynamia increasing, a fatal termination was feared; but by careful nursing and the constant administration of stimulants, aided by a robust constitution, the critical stage was tided over, and after two days he went steadily on to recovery.

The points, then, of interest in this case were: 1. The absence of pyrexia; the thermometers were of proven accuracy, and repeated observations at regular intervals showed no elevation of temperature from first to last. 2. The enormous amount of the discharge. 3. The value of alcoholic stimulation; in this case probably saving a life.

A CASE OF PERFORATIVE APPENDICITIS COMPLICATED BY PREGNANCY.

By FREDERICK H. WIGGIN, M.D.,

NEW YORK.

At the present time so much attention is given to appendicitis that the report of the following obscure case will perhaps be of interest.

On July 21, 1889, I was called to see Mrs. A. V——, a delicate-looking woman, twenty five years of age, married. She had been ailing for some time, was constipated (this being her habit), had not menstruated for three months, and had a great deal of nausea, especially in the morning. A diagnosis of pregnancy was made, and oxalate of cerium and compound liquorice powder ordered.

On the 24th the nausea had not been relieved, constipation continued, and viburnum compound and an enema were ordered. On the 26th, as the bowels had not moved, and nausea was more marked, I ordered calomel $\frac{1}{10}$ grain, sodium bicarbonate, one grain, half-hourly, for ten doses, then an enema. The pulse at that time was 100, temperature 99° F. At a later visit the patient was found to be more comfortable, and had had a small, scybalous movement.

On the 27th, nausea continued, and for the first time the patient complained of pain at McBurney's point. No tumor could be made out, and the pain was not increased by pressure. Temperature 100° F., pulse 106. Appendicitis was now considered to be the cause of the trouble. A consultation was had, but no agreement reached as to the diagnosis.

On the 28th the patient had had a fairly comfortable night. Pain at McBurney's point had disappeared, and was now complained of over the left ovary. No tumor or dulness on percussion could be made out. There was slight distention of the abdomen, and the muscles were somewhat rigid. Another consultation was had and the diagnosis was still not concurred in. During the afternoon the patient had a chill, and when seen an hour later had a temperature of 103° F., pulse 126. Diagnosis of perforation of the appendix was now made. Operation was proposed, but friends declined to allow it. General septic peritonitis developed, and the patient died on the 31st.

Autopsy. — On opening the abdomen evidences of general septic peritonitis appeared; the appendix contained a fecal concretion about the size of a hazel nut, formed in concentric layers. It had cut off the circulation—the appendix, which was gangrenous. Perforation had taken place at the junction of the appendix and cæcum. A three months' fœtus was found in utero.

The points of interest in this case were: The pregnancy, which might have accounted for the nausea; the absence of tumor, of dulness on percussion, or marked tenderness in the right iliac region; the changing character of the localized pain, which was first on one side and then on the other, leading some of the physicians who saw the case to the opinion that the pain was due to ovaritis, and that the trouble might have been caused by an attempted abortion; the fact that the patient was walking about until within five days of her death.

In this case, if laparotomy had been performed when the diagnosis of appendicitis was first made, the patient would probably have been saved. It is of great importance that the general practitioner should come to understand that an exploratory laparotomy for the purpose of making a diagnosis is not, in proper hands, a dangerous or difficult operation; and, instead of wasting valuable time in refinements of differential diagnosis, as soon as it becomes clear that he has to do with a case of grave intestinal trouble, he should call to his aid a surgeon.

A CASE OF VARICOSE ABDOMINAL VEINS IN A BOY OF SIXTEEN.

By R. ELLIS, M.D.,

DANBURY, CONN.

The patient is a robust lad, aged sixteen, with an excellent family and personal history. He has always been in excellent health until after the Blizzard, when he was sick in bed for three weeks. During the Blizzard he thinks he worked too hard as a grocery delivery clerk, and as a result strained himself. Two days after the Blizzard he felt "heavy pains" in both limbs, and in a few hours they were much swollen. A physician was called, who treated him for rheumatism. He was in bed three weeks, complaining solely of pain in both limbs. He says they were cold, blue, heavy, and symmetrically swollen; his greatest pain was over the great vessels. Both limbs recovered at the same time. He suffered in no other way, save that in the beginning there was dull pain over his stomach. The symptoms proved conclusively that his trouble was phlebitis. Four weeks after the attack ended he noticed a "blue spot" in the left inguinal region, which entirely disappeared under pressure; he consulted his physician again, who diagnosed "rupture" and ordered a truss. Six weeks later, observing no symptoms meanwhile, he noticed the veins of his abdomen were enlarged. He thought nothing of this until, two years later, the "heavy, tired pain" became so severe, especially at night, that he judged it best to consult another physician.

As he undressed I noticed his truss, and requested him to remove it to facilitate the examination. There was absolutely no sign of a hernia; the "blue spot," which was evidently but a dilated vein, was mistaken by his former medical adviser for a hernia. The truss, which he had worn for two years, fitted so tightly that it greatly increased the tension of the veins on that side.

Now comes the interesting question of etiology. What caused this severe phlebitis in both limbs? Why, after perfect recovery and no venous enlargement, did the abdominal veins become varicose in ten weeks? My limited library does not contain the record of such a case in one so young. I believe from the history of the case

that the attack originated from intra-abdominal obstruction to the venous current. I cannot say whether the obstruction was due to some trouble without the veins, in the coats of the veins, or within the veins. The possible causes are easy to give, the true one difficult. In reference to the varicose abdominal veins, the reason for their existence is clear, if the phlebitis in the limbs was due to intra-abdominal venous obstruction, but if not, the reason is obscure.

The appearance of the abdomen is like that of the case given in Bryant's "Surgery," of collateral venous circulation due to an obstructed inferior vena cava.

A CASE OF HYDROPHOBIA.

By SIDNEY I. SMALL, M.D.,

SAGINAW, MICH.

I AM led to report the following case, not for the purpose of advancing any new theory, but from a sense of duty to record it among statistical data.

On the afternoon of July 4, 1891, Maurice G——, aged seventeen, in attempting to quiet two quarrelling dogs, fell, and was bitten by one of the dogs, just above the left eye. But little attention was paid to the wound which healed readily, and the young man continued at work until Wednesday, July 30th, although for five or six days previous to this he had complained of feeling badly, having slight fever, and occasional pains in the region of the wound; and his sister, with whom he boarded, noticed that he seemed greatly depressed, disinclined to talk, and at times very irritable. On Wednesday when he quit work these symptoms had increased, and he complained of stiffness in the muscles of the neck, occasional choking sensations, and pain in the wound, extending over the side of the head. Thursday noon he experienced difficulty in drinking. His condition grew rapidly worse during the afternoon, and when I saw him at seven o'clock he could swallow liquids only by the greatest effort. The area of redness about the wound had increased, the eye was congested, and the pain severe. I passed him a glass of water, which he took in both hands and carried to within a few inches of his lips, where he held it a short time, shuddering, and then by a sudden movement of the hands, at the same time jerking his head forward, he seized the glass in his mouth and took one swallow. The act of swallowing caused a spasm of the pharyngeal and respiratory muscles, a "catching of the breath," resembling that produced by an affusion of cold water, and followed by a relaxation of the muscular system, and an appearance of great exhaustion.

Realizing the grave nature of the case, I asked Dr. Sample and Dr. Connery to see it, and they continued with me in charge until the close. The patient rested but little Thursday night, but continued to get worse, and when we visited him Friday morning the sight of water, a drop upon the skin, or the sound of pouring it from one vessel to another, a draught of air, or a strong light, was sufficient to produce a spasm. He was unable to swallow his saliva, but expelled it with great difficulty, and occasionally vomited a greenish-brown liquid. The convulsions spread to all the other muscles, becoming tetanoid in character.

Friday night there appeared some delusions which, toward morning, increased to wild delirium. In a few hours this gave place to paralysis and coma, and the patient died at ten o'clock Saturday morning. The temperature ranged about two degrees above normal.

A carefully-made autopsy by Dr. Connery discovered nothing striking. The blood was fluid, more so than usual, the brain congested, and vessels dilated.

The treatment was by curarine, hyoscine hydrobromate, and morphine hypodermically, and chloral by the rectum, and the success was no greater and no less, I suppose, than has been reached by others, according to authentic records. I attach a table showing the amounts given, and the intervals, with the effect produced, or, to speak more accurately, the condition which prevailed at the time. Amyl nitrite was also tried, but disappointed us with transitory and slight effects. In another case I think I should try curarine again, but in larger doses.

Our attempts to trace the history of the dogs were only partially successful. Both disappeared, and of the one which gave the wound nothing more has been heard. The other one, which had been bitten in the fight, was found Saturday morning, August 1st, in an outhouse at his home. He appeared dull and indisposed to move, but when roused was very irritable and inclined to bite. He was secured and placed in a room, furnished with food and water, and his behavior noted by Dr. Connery, to whom I am indebted for the subsequent history. The animal soon became extremely restless, howling almost constantly, beginning with a short note, and ending in one very much higher, prolonged, and having a peculiar, metallic ring. The jaw drooped, allowing the mouth to remain partially open, and this condition was followed by so great weakening of the muscles of deglutition as to prevent swallowing. The statements in regard to the great dread of water were not true here, for the animal apparently made great attempts to swallow, but was unable. There was, from the first, unsteadiness of gait and movement, with increasing weakness, until he was unable to stand, and he soon became comatose, and died Sunday afternoon. The symptoms closely resembled those of acute ascending or Landry's paralysis. The post-mortem examination showed great hyperæmia of the dura mater and cortex. The larynx, trachea, and lungs were also much congested. The stomach was partly filled with hay, bits of wood, cinders, and hair.

Date.	Time.	Temperature.	Pulse.	Respiration.	Medicines.	Nourishment.	Remarks.
July 30	10 P.M.	102.6°	90	28	Hyoscine hydrobromide, gr. $\frac{1}{100}$.	.....	No delirium.
July 31	10 A.M.	100.8°	78	26	Curarine, gr. $\frac{1}{100}$.	Oatmeal, ʒ ss.	Spasms.
July 31	12.30 P.M.	100.4°	74	.....	Curarine, gr. $\frac{1}{100}$.	.....	Spasms increasing.
July 31	2.30 P.M.	100.0°	78	24	Curarine, gr. $\frac{1}{80}$.	.....	Nausea and vomiting.
July 31	4.30 P.M.	.....	.....	.....	Curarine, gr. $\frac{1}{80}$.	.....	Much weaker.
July 31	6 P.M.	.....	.....	.....	.....	Two cookies.	Still weaker.
July 31	7 P.M.	.....	110	28	Curarine, gr. $\frac{3}{100}$. ℞. Chloral, gr. xl. Liq. beef pept., ʒ ss. } Per rectum. Milk, ʒ vj.		
July 31	9 P.M.	.....	.....	.....	Curarine, gr. $\frac{1}{100}$. Chloral mixture. Morphia, gr. ¼ (hypodermically).		
July 31	10.30 P.M.	.....	.....	.....	Hyoscine hydrobromide, gr. $\frac{3}{100}$.	.....	Became so violent that anklets were applied to hold him.
August 1	1 A.M.	.....	.....	28	Curarine, gr. $\frac{1}{80}$. Morphia, gr. ¼.	.....	Hypodermically.
August 1	3.45 A.M.	.....	.....	.....	Curarine, gr. $\frac{1}{80}$. Morphia, gr. ¼.	.....	Hypodermically.
August 1	7 A.M.	.....	.....	.....	Morphia, gr. ¼.		
August 1	10 A.M.	.....	.....	.....	.....	.....	Died.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE DESTRUCTION OF MICRO-ORGANISMS BY AMŒBOID CELLS —DEATH OF PROFESSOR JOHN WOOD—THE GROWTH OF THE PROFESSION—LADY DOCTORS—GIFTS TO THE LONDON UNIVERSITY.

LONDON, January 2, 1892.

IN a lecture recently delivered in the theatre of the College Laboratories on the Embankment (maintained by the Royal Colleges of Physicians and Surgeons), Dr. Armand Ruffer gave an account of some further researches which he had made on the destructive action of amœboid cells on micro-organisms. The result of these further observations, he said, was to confirm him in his former opinion, that the destruction of micro-organisms in living tissues is accomplished by the cells of the body, and by the cells only. His recent experiments were all made with the virus of quarter-evil, the *bacillus Chauvæi*. Instead, however, of using guinea-pigs, which took the disease readily, he inoculated rabbits, which were immune against quarter-evil, and therefore lent themselves well to the study of the effects on this virus of the living fluids and cells. If the immunity of rabbits were due to the fluids of the body not furnishing sufficient nutritive material, the bacilli of quarter evil ought not to grow at all—or but sparingly, at any rate—in those animals. If the immunity were due to some bactericidal power possessed by the rabbit's fluids, then degenerated bacilli should be found in the fluids near the point of inoculation. If, on the other hand, the rabbit's resistance were due to the action of the animal's cells, and not to the action of fluids, then the bacilli should grow freely in the fluids of the animal's body, but degenerate in the interior of amœboid cells.

Dr. Ruffer found that both in guinea-pigs and immune rabbits the bacilli commenced growing as soon as they were introduced, and that the leucocytes gathered to the spot where the micro-organisms had been introduced. The leucocytes were attracted to the spot by the chemical poisons secreted by micro-organisms, and they violently attacked the latter, took them into their interior, and destroyed them. The cellular emigration at the point of inoculation varied inversely to the quantity and strength of the virus introduced, but was in proportion to the length and curability of the disease. When a large quantity of extremely virulent bacilli was injected, the emigration of leucocytes was slight or totally absent, but it was more marked when only a few virulent bacilli were introduced, or when the quantity of virus introduced being large, its virulence had been previously diminished. Whenever, from any cause, mechanical or chemical, the leucocytes were prevented from reaching the virus, the disease invariably progressed and the animal died. (This was well demonstrated when, after enveloping the virus in filter paper and allowing it to remain under the animal's skin, the protection of the paper was removed.) When the leucocytes were repelled by the action of lactic acid on one side of the body, the disease only developed on that side, and when the cellular emigration was arrested by injecting the bacterial poisons into the blood-stream, the disease progressed with an appalling rapidity. What was observed with regard to cellular emigration, however, by no means applied to the other necessary accompaniment of inflammation, viz., exudation; it would rather appear as if the two stood in some inverse relation to one another. Compare, for instance, the thin sanguineous exudation of a rabbit dying in twelve hours from the inoculation of the bacillus chauvæi, and the thick, tenacious material which accumulated around the virus inoculated into a resistant animal. Was that not sufficient evidence that, in that disease at least, exudation of fluid was always more marked when the disease was most virulent? But in spite of the enormous quantity of this exudation (supposed by some to have strong bactericidal powers), there was not a sign that the micro-organisms were injuriously affected by it; on the contrary, they grew and thrived excellently well.

Another point which stood out clearly was that, when once the animal substances produced by a micro-organism had penetrated into the blood, the poisons secreted by the same micro-organism in other parts of the body failed to attract leucocytes. Thus, on injecting a drop of the culture of the bacillus pyocyaneus into a rabbit's eyes, the leucocytes emigrated to the spot in large numbers; but when the poisons produced by this bacillus were already circulating in the blood, the leucocytes no longer left the vessels. The same result was obtained when the bacillus Chauvæi was injected both subcutaneously and intra-venously. In the case of the bacillus pyocyaneus, there was some evidence to show that the leucocytes were actually paralyzed, for Charrin and Gamaleia had found that the application of croton-oil to the ear of an animal poisoned with the products of the bacillus pyocyaneus was not followed by inflammatory reaction at the point where the oil was applied. This explanation, however, did not hold good for the results obtained with the bacillus Chauvæi. Here the leucocytes in the blood-vessels and the spleen were extremely active, but absolutely powerless to emigrate into the surrounding tissues, in order to attack bacilli of the same species. Their absence of emigration, however, was not due to some change in the vessel-wall, for the leucocytes left the vessels to attack another bacillus —b. pyocyaneus. Similarly the leucocytes of an animal suffering from anthrax declined to attack anthrax bacilli, bnt cheerfully accepted any other diet offered them. Here again, the refusal to emigrate was not simply due to spasm of the vessels or any other vascular cause, as these same cells emigrated freely when any other stimulus was applied. The reason for these apparent anomalies was that, so long as the chemical substance which attracted the leucocytes was present outside the vessels only, the cells emigrated to the spot where this chemical substance was to be found; but as soon as this chemical substance was present in equal or larger quantities in the vessels as in the surrounding tissues, the leucocytes no longer attempted to leave the vessels.

The death is announced of Professor John Wood, who was for many years a member of the surgical staff of King's College Hospital. and lately retired as Consulting Surgeon. Mr. Wood held many important appointments in his time, including those of Professor of Surgery at King's College, and examiner at the College of Surgeons, the College of Physicians, and the Universities of Cambridge and London. He made several important contributions to surgical literature, and one of the operations for the radical cure of hernia is associated with his name. Professor Wood had been in ill-health for some time, but his death will cause a shock to many of his old pupils and confrères, who have been accustomed to look up to him as a skilful and upright surgeon, and as a valued friend.

The rapid growth in numbers of the profession is strikingly illustrated by a glance at the new volume of the Medical Directory just issued. This now comprises more than thirty thousand names—nearly two thousand more than in the edition for 1888. This means that there is one doctor to every ten or eleven hundred of the population—a proportion quite high enough to render the obtaining a decent livelihood by members of the profession a matter of ever-increasing difficulty. This number includes the medical ladies, or lady doctors, who are now becoming sufficiently numerous to cease to attract special comment. Several of the medical ladies have married since entering the profession, and the change of name thus made renders it somewhat difficult to trace their identity. One lady appears in the body of the work under one name and in the appendix under another name, with a note referring to the former entry—a change probably due to marriage. From a glance at "Churchill's

Medical Directory," it is impossible to say whether any lady whose name appears therein is married or single. The editor of "Kelly's London Medical Directory" is more liberal in giving information, and considerately prefixes Miss or Mrs. to the names of some of the lady doctors in his publication. This is in accord with the style of door-plate generally affected by lady doctors, who usually refrain from using the prefix of Doctor.

Lord Sherbrooke (better known by his former name, Mr. Robert Lowe) has given a thousand pounds to the University of London, and the Earl of Derby has promised a similar sum. These gifts are to be devoted to establish a prize essay and Granville scholarship, respectively.

THE DUES OF THE NEW YORK ACADEMY OF MEDICINE.

To the Editor of the Medical Record.

SIR: The letter from "An Impecunious Fellow," in your last issue, was to the point as far as it went, but the writer acquiesces too readily in the increase of the dues, and I cannot agree with him in his concession of the right of the present governing clique to run the institution as they please, and then call on the rank and file to foot the bills. They are the servants of the fellows of the Academy, and it is their business to manage the affairs of their masters as economically as possible. Instead of this, they seem to be trying to see how big a splurge they can make in the new building, apparently attempting to emulate their neighbor, the Century Association, as far as display goes, without, however, giving the fellows any equivalent for their money in the shape of club conveniences.

The admirable protest of Dr. Amidon against the favoritism that is so palpable, not only in the selection of men for discussion of papers, but also in the snubbing of the younger fellows who have papers to read but are put off by the autocratic section officers, until they get tired of waiting and take their contributions to some other society, is timely and pertinent. I would also commend to the serious consideration of the members his remarks concerning the way in which the offices are distributed among the insiders, for this has a bearing upon the question of the extravagance which necessitates increased dues or extra assessments. If the close corporation that now runs the Academy for its own glory (?) were broken up and a little new blood brought into the management, it is very possible that some of the present abuses would be done away with. An amendment to the constitution has been proposed, making every officer ineligible for re-election to the same office until one year after the expiration of his term of service. This would be an excellent provision, and it is to be hoped that those who favor reform in the society will do all they can to secure the passage of this amendment.

ANOTHER FELLOW.

DYSPHAGIA IN PLEURISY, WITH EFFUSION OF THE LEFT SIDE.

To the Editor of the Medical Record.

SIR: I desire to call attention to a condition present in effusions of the left pleural cavity, of large proportions, which I have met with, but do not find mentioned in any reading to which I have had access, namely, dysphagia, or difficulty in swallowing. I have noticed it in three cases, and my attention was called to it by the patients themselves. These cases all presented the true signs of liquid, and more especially that of cardiac, displacement. In one, where the "impulse" was readily felt in the right mammary line, the patient complained the most of the trouble in eating, or as she expressed herself, "I seem to swallow around something." In one case the dysphagia was relieved in a few hours after aspiration of more than a quart of liquid. In another the relief was gradual, as the effusion disappeared by absorption.

Latterly, I have had two patients at the same time, one with right, and one with left, effusion, both effusions of large proportions. While the case of the left pleurisy complained voluntarily of the trouble in swallowing, the patient with the effusion in the right pleural cavity had nothing of the kind, neither did close questioning elicit anything to that effect. Should another case occur with this symptom, as I conceive it to be of left pleurisy, I shall attempt a verification of my theory with the passage of a bougie.

My explanation is that of a displacement of the cardiac end of the stomach, carrying with it the œsophagus; leaving a sharp curve against which the food rudely impinges. This condition would theoretically happen with a displacement of the heart to the right mammary line, as in the most pronounced case before cited.

I should like to hear from the profession on this point.

RALPH CROSS HUSE, JR.

GEORGETOWN, MASS.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 16, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	4
Scarlet fever	221	41
Cerebro-spinal meningitis	4	3
Measles	120	12
Diphtheria	127	31
Small-pox	0	0
Varicella	7	0
Pertussis	1	7
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

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Original Articles.

THE TREATMENT OF A COLD.[1]

BY HENRY H. SCHROEDER, M.D.,

NEW YORK.

WE are not apt to choose a subject when about to address an assembly of medical men that refers to an every-day, commonplace malady. Yet it will possibly be of profit to us all if this brief paper is successful in drawing out a discussion from the members present. The subject is not such an unimportant one either, though it is neglected by the text books on clinical medicine, when we consider how frequently we are called upon to contend with colds and the resulting diseases. It will perhaps be permissible to digress, before speaking of the treatment, and inquire briefly into the nature and causes of the disorder.

What is a cold? Even in the present state of knowledge it is difficult to give a full and satisfactory explanation of all the phenomena of the disease. In common parlance, it embraces everything from a mild coryza to galloping consumption, and intelligent people tell you that some relative, having contracted a "bad cold," died after several months' or a year's illness, yet deny that consumption ever existed in their families. This is a point to be kept in mind when examining for life insurance, and close questioning as to the symptoms and duration of the sickness should be employed. It is to be feared that this promiscuous use of the term is not confined to the laity, for when persistently pressed for an explanation, how easy it is to unfold to a patient the mystery of their particular ailment by informing them that they have taken cold; this explains satisfactorily to them all the pains and aches so often disagreeably indefinite to the attending physician. In the course of an ordinary cold there is invariably a certain degree of febrile and inflammatory action, and many of the symptoms which usher it in, precisely resemble those which occur when some special form of fever or severe inflammation is about to attack the patient. They may not be so severe, but the difference is one of degree. The existence of prodromes, the chilly sensations, loss of appetite, depression and appearance of fever prior to the development of the local manifestations, the persistence of the local inflammation after the temperature has fallen, all serve as good evidence that the disturbance is not due to a mere local inflammation, but to a general affection. There are people who are incessantly catching cold on the slightest provocation, but who suffer very little from the general symptoms. In these cases there are local sources of irritation, some chronic inflammation, thickening, atrophy, new growth, or deformity about the nasal passages, or chronic inflammation of the mucous membrane of the pharynx, larynx, or bronchial tubes. In all of these an acute attack on top of the old is very easily aroused, as the structures being diseased, are influenced by conditions that would otherwise be inert.

How do we take cold? At this question, forward comes the time honored prejudice in favor of a very low temperature. Exposure to cold with old age, vicious habits, constitutional defects and many other causes, may predispose to colds by undermining the powers of resistance already weakened. Excepting these cases, however, the rule holds good that a person may be subjected to an intense frigidity, even to the freezing of the extremities, without taking cold. A moderately low temperature, just above freezing-point, and a moist atmosphere are the most favorable conditions, especially in the form of a draught. Some years ago I happened to be a member of a United States surveying party out among the foot hills of the Rockies. During the winter, when the atmosphere usually remained about zero, and thirty to forty degrees lower during the blizzards, for the winter was severe even for that region, our only shelter was the canvas tents. The clothing and blankets were cut down to the minimum amount on account of the difficulties of transportation, yet the only man who was afflicted with a cold, was one who had persisted in bathing in a natural hot spring near which we were camped for a short time. Even with the favorable conditions present, a cold does not often follow exposure of the whole body; receiving a draught from an open window on a portion of the body, and chilling of the feet in damp weather are the most fruitful sources. So it is seen that the excitation occurring at a certain locality results in inflammation in another part of the body which happens to be weakened or hypersensitive, and that is generally, in this climate, in the respiratory tract, though it may exist elsewhere, as in a rheumatic joint or at the seat of an old pelvic peritonitis. Those examining for life insurance find in some cases a transient albuminuria, and even an occasional hyaline cast during or immediately after a cold. Though such an applicant may be favorably recommended after a short postponement and furnishing several normal specimens of urine, are we sure that this condition is not a signal denoting a more or less asthenic state of the kidneys, which will be liable at some future time to invite more serious changes? These effects are probably attained through the agency of the central nervous system which governs the function of heat-production and nutrition. As a result of the cold, moist draught on some part of the body, this function is disturbed, and the central nervous system still possessing the same amount of force and action, must have an overflow through some other channel. Just as that part of a dam capable of the least resistance is broken away first by too much pressure from the reservoir, so is the weakest point chosen for the exhibition of the increased amount of heat-production and nutrition; but the heat is developed faster than it can be carried off, or the process by which it is eliminated is interfered with for the time, and inflammation and fever are the results. But we must leave the most interesting part of the subject to discuss the treatment of colds.

Prophylaxis will prove most valuable to our patients, if we can persuade them to be guided by its precepts. It is safe to say that the people of this country suffer more from an excess of food than from scarcity, but it is perhaps absurd to entertain the idea that we can prevail upon them to be careful in this respect; yet if we can induce them to limit themselves to some extent to the proper quantity and quality of food, a great deal will be accomplished, for we repeatedly see inflammations of the upper air passages, which are much aggravated, if not actually provoked, by indigestion. A good digestion and proper food means a well-nourished body which can ward off disease. An excess of alcoholic beverages has a debilitating effect upon the tissues in general, and it is a well known clinical fact that inflammations and fevers in those ad-

[1] Read at a meeting of the Society of the Alumni of the Charity Hospital, January 6, 1892.

dicted to this habit, respond very reluctantly to our treatment. These persons also are more apt to recklessly expose themselves to the inclemencies of the weather. Regular action of the bowels should be attended to for this as well as many other reasons, for if the excretory organs are kept up to their work, the deleterious substances which tend to depress and vitiate are removed. This is of great importance to those who have a predisposition to gout or rheumatism. Any pernicious substance within impairs the vitality of the tissues, and renders them more susceptible to external influences. Impure air and poor hygienic surroundings are abuses which prevail on all sides in these days of dark, steam-heated apartments for dwellings and offices. Attempts to remedy such evils, however, would discourage the most persistent of us, yet can you conceive of a more debilitating or enervating effect, than that produced by such surroundings on the general health as well as the mucous membranes? In nine out of ten of these offices, weary, overtaxed brain-workers are struggling to exist in air that would almost suffocate the hardiest and most vivacious bacillus. Exercise is a measure that we will meet with more success in persuading our patients to adopt, and the men who occupy the offices and rooms just mentioned, can by this means counteract many of the poisonous effects caused by their unhealthy surroundings during working-hours. A long, brisk walk to and from their place of business will be of great benefit, and riding in the close, crowded, draughty, and uncomfortable elevated cars will be avoided. But of all the means by which we may inure our bodies to variations of temperature and other unfavorable conditions of the weather, let me heartily recommend the cold bath, especially if taken in the morning. How often after a broken night's rest, or perhaps no sleep at all, I have felt refreshed and invigorated by the morning sponge-bath which I have accustomed myself to take every morning with a marked beneficial effect. A cold bath followed by a cup of coffee, is the best substitute for sleep that I know of. It is an important agent in the preservation of health and giving immunity from colds; but unfortunately some are debarred the use of it on account of the depression which they experience, though this may often be prevented by friction with a rough towel. In these cases there is a deficient heat-producing power, which is due to old age or debility arising from some constitutional disease.

The majority of people fondly cherish the idea that they become exempt from colds by wearing an inordinate amount of clothing, but I do not hesitate to say that more are contracted by having too much on than too little. We must remember that during the greater part of the time we live in a temperature which is about equal to a mild summer heat, and that if burdened down with flannels, the skin will be more or less moist with perspiration. Now, when a draught of cold air reaches any part of the body, a sensation of chilliness is experienced in spite of the layers of wool, and this marks the onset of a cold. The prevailing mode of dress for women is extremely faulty, and it is no uncommon sight to see a ridiculous fur cape over the shoulders of one wearing low-cut shoes and thin silk stockings. The most vulnerable point for the reception of colds is the feet, not the chest. As Bosworth aptly remarks, "the best possible place to wear a chest-protector is on the soles of the feet," and "the worst possible place is over the chest." He maintains that excessive protection of one portion of the body at the expense of another, invariably results in some weakness, without protecting that part especially, and is a vicious custom of clothing. Advise your patients to wear moderately heavy woollen underwear, evenly distributed, and to rather depend for freedom from colds upon making their bodies hardy and vigorous.

All this good advice, however, will be very little heeded, and our practices suffer no diminution from a generous dispensation of it. Men hustle about town in their mad rush for business, having not the slightest regard for the preservation of health, and the ladies will wear top-heavy clothing and make the feet appear small. So it becomes necessary to adopt curative, or, as some will prefer to term them, palliative measures.

If our attention is called to the case in the very beginning, an attempt should be made to abort the cold, and for this nothing is better than the old-time treatment, consisting of a hot foot-bath, hot punch, a ten-grain Dover's powder and five grains of calomel. To this some add quinine, but I never do, as the patient has already had enough to cause a dizzy brain in the morning. As soon as possible after the foot bath, the patient should be put between the sheets and kept there until well. If there is much perspiration, the skin should be dried, using moderate friction at the same time. I do not think that we often succeed in aborting an attack unless it is a mild one, but the above treatment, applied at any time in the first part of the disturbance, seems at least to mitigate the subsequent course. The physician is not generally called until the local symptoms have developed, and they are so distressing that they receive most of the attention. Still, a great deal can be done in the way of general treatment. I always begin, be the patient old or young, with a dose of calomel, varying according to the age, and followed by a saline laxative in the morning if necessary. We may consider this the best part of the whole treatment, for it hastens the waste occasioned by the febrile diseases, and causes the elimination of the products through the intestine. A sedative is followed by a result which is grateful to the patient, and may consist of bromide, chloral or codein. There is always more or less fever, and if the tonsils are invaded there will be considerable: this can be mitigated by five-grain doses of acetanilide or phenacetin, every two or three hours, to an adult, until relieved. If there is much pain, the addition of the caffein alkaloid will greatly enhance the value of the phenacetin. When the bronchial tubes are inflamed, there is in the febrile stage a dry, hacking cough which is extremely aggravating, and a soothing expectorant mixture is indicated. One which has given entire satisfaction to my patients consists of the spirits of chloroform, spirits of camphor, codein, and muriate of ammonia in glycerine or sirup of tolu. But after the expectoration begins to be free, the so-called "cough mixtures" are worse than useless, serving only to dull the appetite and derange the stomach. When the patient is a child, the fretfulness and incessant crying are extremely annoying to those around, and irritating to itself. To quiet it, two or three grains of phenacetin and about five grains of sodium bromide, repeated several times if necessary, are quite effective. Aconite and belladonna have been used by me with such a poor result, that I have consigned them to a "back seat." A gouty or rheumatic diathesis is at the bottom of the trouble occasionally, and in such a case fifteen grains each of salicylate and bicarbonate of soda has been of more use to me than any other remedy. Salol, vaunted as being of the highest value, seems to me to be only a weak edition of salicylic acid and the salicylate of soda.

Local remedies, varying with the part involved, soothe the angry mucous membranes and allay the inflammation, and are very useful adjuncts. The most frequent manifestation of a cold is an acute rhinitis. This consists of a congestion and swelling of the Schneiderian membrane, followed in a few hours by the secretion of a profuse, watery, acrid discharge which excoriates the skin about the nostrils. Insufflation of a powder consisting of boracic acid, bismuth, morphine, and camphor gives wonderful relief from this very disagreeable condition. Atropin, one-eighth grain to the drachm, added to the above, will stop the discharge almost immediately, but it leaves a sense of fulness which many object to. Hot nasal douches have been recommended, and it seems as if they might prove beneficial, judging from the effects of heat on inflammations in other parts. Inhalations of vapor from hot water containing iodine, carbolic acid or chloroform alleviate to a considerable degree. The menthol inhalers sold in the shops are also useful, and have the advantage

of being easily carried about, for we cannot expect to be able always to keep the patient in the house, though that would be of more benefit than any other measure.

The use of cocaine has come to be very popular as a remedy for relief in coryza, as well as some of the more chronic troubles, and it is not by any means confined to physicians, for I have seen druggists prescribe it over their counters, and also heard customers request it. I am glad to have an opportunity to strongly condemn its employment, except as a surgical expedient, though a small dose by the stomach for some such purpose as to arrest severe vomiting, does not occasion the delightful sensations that occur in many persons when applied to the nasal membranes, or given hypodermatically. One has only to see the wrecks of those who should have been foremost in the ranks, to learn that this is not a drug to be used for every trivial complaint. I am aware of two unfortunates with whom the habit originated from nasal applications alone. Then, again, a severe collapse has followed its administration by the throat and nose, and we are unable to determine in whom the idiosyncrasy lurks, until this alarming condition, or some other less grave nervous symptom, is provoked. After all, cocaine is of very doubtful utility in these cases, for the effect, though fascinating to such a dangerous degree, is very evanescent, and the reaction brings with it an aggravation of the patient's condition, which can only be relieved by repeated applications. In some of the books it is stated that the good impression produced is of two to four hours' duration, but these are exceptional cases, for it is generally only a half to one hour. Considering, then, the small amount of benefit derived, it is unjustifiable to tempt weak humanity with the most enchanting sensations ever produced by a drug.

As soon as the discharge becomes thicker and more tenacious, and there is difficulty in clearing the obstruction from the nasal cavities, the calibre of which is already narrowed by the tumefaction of the membranes, an alkaline spray, such as Dobell's solution, or glycerine and water in which Seiler's antiseptic tablets have been dissolved, brings away the yellowish-green, muco-purulent matter. This cleanses the parts, and may be followed by an inhalation of benzoinol or some other liquid petroleum derivative, which we can use alone or with the addition of menthol, carbolic acid, camphor, eucalyptol, or several other drugs. Camphor and menthol rubbed together until a semifluid mixture results and added to the benzoinol, gives great relief. Oliver's vaporizing atomizer, made by Codman & Shurtleff, of Boston, is especially adapted for the administration of these compounds. Applications of nitrate of silver, sulphate of zinc, and other strong astringents are without value, and the use of chromic acid or any cauterizing agent can only be deprecated, for it is not warranted in a self limited disease which will probably last only a few days.

In severe cases of coryza the catarrhal inflammation may extend to the frontal sinuses, Eustachian tubes, or pharynx. Severe frontal headache is experienced when the sinuses are involved, and is very much alleviated, or entirely relieved, by the local application of heat. Eustachian catarrh needs no additional treatment unless the process extends to the middle ear, and I always employ counter-irritation in form of a blister as a preventive measure as soon as I make out any ear trouble, and feel confident that many ear-drums have been preserved from rupture by this means. For pharyngitis, alkaline and astringent sprays are indicated, but the ailment is often provoked or made worse by some other disorder which also demands treatment, whether it be a deranged digestion, a lithæmic diathesis, or a general debility. Liquid vaseline, with the addition of carbolic acid, salicylic acid, or iodine, in the form of a spray or vapor, is quite effective. It is to be kept in mind that the vaseline adheres to the mucous membranes for a length of time which has been found to be from two to three hours, whereas the watery sprays only bring the medicament in contact with the parts for fifteen to twenty minutes. Tonsillitis, like pharyngitis, is often a reflection of some other trouble, although excited by the cold. It is accompanied by pain of the surrounding parts, especially when the pillars of the fauces are stretched during the act of swallowing. Nothing has given more relief to this in my experience than a gargle of water hot as can be borne in the mouth, and repeated every one or two hours. It has, besides, a desirable effect upon the inflammation. In laryngitis we must depend upon a very fine spray, or, better yet, the vapor from the Oliver atomizer, which can be drawn into the larynx with the ordinary inspirations. The menthol-camphor already mentioned, possesses the desirable remedial qualities for laryngeal inflammation, with benzoinol as a vehicle, in the proportion of three to five per cent. When the trouble becomes subacute, carbolic acid, iodine, or eucalyptol may be substituted. In children, catarrhal croup sometimes ensues, but is easily controlled by use of an emetic, a rectal enema, $\frac{1}{30}$ to $\frac{1}{40}$ of a grain of morphine every hour until relieved, and hot fomentations over the throat. For bronchitis, counter-irritation by means of mustard over the chest is of great value. After the expectorant mixtures have done their part, inhalations of oil of tar, turpentine, eucalyptus, or turpentine, either with Beverley Robinson's inhaler, or in benzoinol with Oliver's apparatus, are very useful.

It is always best when treating children for colds, even if situated in the upper air-passages, to employ some mild counter-irritant, such as camphorated oil, over the throat and chest, and thus forestall the anxious mother who expects some such measure, and who will surely propose either goose grease, parboiled onions, or fat pork. Finally, it is frequently necessary to follow these disturbances with tonics. For the debility and prostration after very severe colds, quinine in small doses, combined with nux vomica and capsicum, and put up in capsules, makes one of the best. If anæmia also exists, iron should be added to the same combination. Alcoholic stimulants have to be exhibited with a generous hand when the patient is aged, feeble, or afflicted with some organic disease, for the debility and prostration may be so extreme as to prove fatal, and in such cases we cannot be too attentive.

Hermaphrodism.—The *France Médical*, October 23, 1891, gives a notice of Dr. Charles Debierre's recent work upon this subject, which has been undertaken solely for the following purpose: first, to prove that, from the anatomical point of view, the hermaphrodite is neither a monstrosity nor a freak of nature, but a creature devoid of ordinary development, that is, not developed sexually in conformity to its species. Physiologically, the hermaphrodite is a degenerate, impotent and sterile, imperfect in impulse and characteristic equilibrium, on account of unstable and perverted sex. Socially an unfortunate object, and much to be pitied, the hermaphrodite belongs to the dangerous classes, and society should be warned accordingly. Humanity is either masculine or feminine. The unhappy object of Dr. Debierre's study is neither man nor woman. Before the civil code it would be well to consider the hermaphrodite absolutely neuter, thus excluding the possibility of legal marriages in cases of doubtful sex.

A Curious Verdict.—A steam atomizing apparatus fell on a child in an English town and killed him, and the verdict of the coroner's jury was that he "died from shock following bronchitis and whooping-cough, caused through the shaking of the house by the firing of a gun at the Government proof butts on the Plumstead Marshes."

No Pay, No Cure.—A Maryland physician who had just sewn up a large wound in a man's leg, upon being refused a fee, cut the stitches and went away, saying that he didn't do any more work for nothing.

THERAPEUTIC RESULTS OF DIRECT ELECTRIZATION OF THE STOMACH.[1]

By MAX EINHORN, M.D.,

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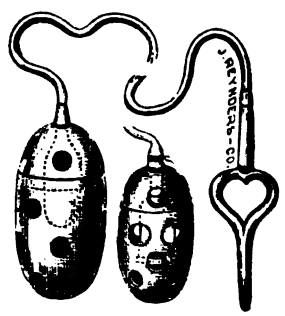
In a paper entitled "A New Method for Direct Electrization of the Stomach,"[2] read before the New York Academy of Medicine on March 25, 1891, I promised to give more detailed results of the physiological and therapeutic action of this method at a later opportunity.

By the introduction of the deglutable stomach electrode direct gastro electrization has been, in fact, simplified and greatly facilitated. Thus I was enabled to treat quite a large number of patients by this method, and to make several experimental investigations besides.[3]



1 2

FIG. 1. — Deglutable Electrode, large size. FIG. 2.—Deglutable Electrode, small size.

Notwithstanding that my work on this subject cannot as yet be regarded as completely finished, I would now like to communicate the results already obtained; for I trust that they will prove of value in therapeusis, and a supplement to this paper can be issued without any inconvenience at a later period.

The literature of electrization of the stomach I have discussed pretty fully in the above-mentioned paper, but there are yet some points to be added in reference to direct electrization of the stomach which will be done later at the proper place.

In the administration of electricity I have made use of the two electric currents most commonly employed in medicine, viz., the faradic and the galvanic. As there were no rules when to use the one or the other kind of current, I in the beginning applied almost exclusively the faradic, this electric resource being most easily handled and found everywhere, only where there was no result whatever, or only a slight one obtained by faradization, did I take up the galvanic current. After a while, however, I thought that I had discovered one indication for the application of the galvanic current, and therefore administered galvanization at once in appropriate cases in the beginning of the electrical treatment.

Before discussing the proposed subject, viz., the therapeutic results of direct gastro-electrization, I would like to describe a few instances which bear upon the physiological efficacy of this means. In the above-named paper I mentioned several experiments which showed that the faradic current increases the amount of gastric juice secreted. This has been verified by Allen E. Jones.[4]

As can be seen from the experiments mentioned in my paper, the increase is, however, not very large, and I would like to add now that this increase must not be expected with mathematical certainty. Meanwhile, I had the opportunity to observe a case where the degree of acidity after faradization was lower than before. Here many factors enter into play, which sometimes are not very easily seen and taken into consideration. I think, however, I may conclude from my further experiments that the faradic current generally increases the gastric secretion. The question arises, How does the galvanic current act? In order to decide this the same experiments with direct faradization related in the above mentioned paper were now executed with direct gastro-galvanization on healthy and sick people.

[1] Read before the Medical Society of the County of New York, December 28 1891.

[2] New York MEDICAL RECORD, May 9, 1891.

[3] Lately I have made the electrode a little smaller than that demonstrated in the Academy meeting (see figure), and its use has become still more convenient.

[4] MEDICAL RECORD, June 13, 1891.

The method consisted in examining each individual, first when fasting, by means of a stomach-tube, in order to ascertain whether the stomach was empty or not; the contents occasionally found there were removed. Then each one of them drank 100 c.c. of water and swallowed the electrode, electricity, however, not being applied. After ten minutes the electrode was withdrawn, and the stomach contents withdrawn by means of a tube, and examined to determine the amount of hydrochloric acid and the degree of acidity. After this the subject drank again the same quantity of water, and the stomach was now galvanized (the deglutable electrode being in the stomach, the other beneath the processus ensiformis on the epigastrium), the strength of the current being always about fifteen milliampères, very seldom twenty; the duration of the application was ten minutes; the current was applied constantly without any interruption whatever.

After the galvanization the contents of the stomach were obtained, examined, and compared with the first portions. The influence of the positive and negative poles upon the stomach in reference to the secretion of juice was also determined. In several trials comparative examinations were made on the same individual as to the effect of the galvanic and faradic currents on the secretion of gastric juice. The experiments made for this purpose were divided into two groups:

I. The behavior of the galvanic current applied to the inner stomach wall in people without any digestive troubles.

1. F. R——, aged twenty-seven, servant. *a.* August 22, 1891.—*a.* Fasting condition; drinks 100 c.c. of water and swallows the electrode, which is left in the stomach for ten minutes. By means of a tube 95 c.c. of the stomach contents are obtained. Reaction acid; HCl = 0; acidity = 12;[1] propeptone = 0; peptone, biuret reaction + (faint); Lugol's solution remains unchanged; Uffelmann's reagent (weak solution of carbolic acid + ferr. sesquichlorat.) becomes discolored, but not to a straw-yellow; rennet ferment + (equal parts of the filtrate and milk, after fifteen minutes almost firmly coagulated, after an hour absolutely firm coagulation).

β. Drinks again 100 c.c. of water and is galvanized for ten minutes, negative pole being in the stomach. By means of a tube 85 c.c obtained. Reaction, faintly acid; HCl = 0; acidity = 6; propeptone = 0; biuret reaction +; Lugol's solution unchanged; Uffelmann's reagent discolored but not straw-yellow. In order to produce the discoloration of the U. reagent a much larger portion has to be added from *β* than from *a*; rennet ferment = 0 (?) (equal parts of filtrate and milk, after fifteen minutes unchanged; after an hour still unchanged; after six hours unchanged; on the following day coagulated in very fine, not coherent curdles).

b. August 25th.—Drinks in a fasting condition 100 c.c. of water and is galvanized for ten minutes (the negative electrode being in the stomach). 115 c.c. of a clear watery fluid mixed with a little mucus obtained: Reaction — faintly acid; HCl = 0; acidity = 2; rennet = 0.

[In this and in the following trial the control-test of swallowing the deglutable electrode without galvanization has been omitted, as it was too troublesme for Mr. F. R—— to undergo all the necessary procedures so often in succession.]

c. August 27th.—Drinks while fasting 100 c.c. of water and is galvanized for ten minutes; negative electrode in the stomach. By means of a tube 60 c.c. obtained: HCl + weak; acidity = 16; rennet +. In order to ascertain the chemical function of the stomach in this individual the contents of his stomach were examined again, one hour after a cup of tea and a roll had been partaken of: HCl +; acidity = 80. The acidity

[1] The degree of acidity was always expressed by the amount of c.c. of a one-tenth standard sodium-hydrate solution necessary to neutralize 100 c.c. of the filtrate.

found was higher than normal; but whether this was the result of the several experiments made on the stomach of F. R—— during the latter part of August, or whether his stomach usually works this way, is hard to tell. In fact, we have no exact standard from which we could deduce that this is the normal. I think the normal varies in a certain degree with each individual. We can, however, speak of a normal standard found by averaging the majority of cases.

2. George N. I——, aged forty-five, at present free from any distress from the digestive organs.

a. October 6, 1891.—*α.* While fasting (had partaken one hour previously of a glass of water) 60 c.c. of water obtained by means of a tube: HCl + ; acidity = 68. *β.* Drinks 100 c.c. of water and swallows the electrode, which is left in the stomach for ten minutes; thereupon the electrode is withdrawn, and the contents of the stomach (90 c.c.) obtained: HCl + ; acidity = 10. *γ.* Drinks 100 c.c. of water and is gastro-faradized internally for ten minutes. Obtained contents = 90 c.c.: HCl + ; acidity = 13.

b. October 15th.—*α.* When fasting (one hour after a glassful of water). Obtained contents about 50 c.c.: HCl + ; acidity = 22. *β.* Drinks 100 c.c. of water and swallows the electrode, which is left in the stomach for ten minutes. Obtained contents = 80 c.c.: HCl = 0; acidity = 4. *γ.* Drinks 100 c.c. and is galvanized for ten minutes (negative pole in the stomach). Obtained contents = 130 c.c.: HCl = 0; acidity = 2.

3. Rose N——, about twenty-seven years of age, being in perfect health, servant.

a. August 11, 1891.—Drinks when fasting 100 c.c. of water and is galvanized for ten minutes (negative pole being in the stomach). By means of a tube 120 c.c. of the contents are obtained: reaction, slightly acid; HCl = 0; acidity = 4; rennet ferment = 0.

b. August 12th.—Drinks, when fasting, 100 c.c. of water and is galvanized for ten minutes (positive pole in the stomach). By means of a tube only 30 c.c. of a yellowish fluid are obtained: reaction, slightly alkaline; rennet ferment = 0; a slice of hard-boiled egg albumin put into this liquid is digested in three hours. Here the greater part of the water seems to have already disappeared from the stomach, either by resorption, or by finding its way to the small intestines; the obtained contents consisted mainly of the bile and duodenal secretion, as shown by the reactions described.]

c. August 25th.—Drinks while fasting 100 c.c. of water and is gastro-faradized internally for ten minutes. Only 40 c.c. could be obtained: reaction, slightly acid; HCl = 0; acidity = 4; Rennet ferment = 0. The circumstance that after the internal gastro-faradization no HCl had been found in the contents of the stomach caused me to examine the chemical function of the stomach one hour after Ewald's test-breakfast.

November 7th.—One hour after breakfast: HCl = 0; acidity = 24; rennet +.

In this way it seems quite apparent that the last person, although in perfect health, did not furnish a normal chemical condition of the stomach; therefore the results obtained by direct electrization in this case cannot be of any value for the purposes in question. This case, however, is interesting in as far as it shows that, notwithstanding such anomaly in the secretion of the stomach (absence of free hydrochloric acid and very low acidity), a person can be in perfect health.

In a fourth perfectly healthy individual the same experiments in reference to the efficacy of internal gastro-electrization were made. But very little of the stomach contents could be obtained, even after several trials; the person had to make use of abdominal pressure quite a long time and with force. These results are, according to my opinion, unfit to be made use of, for the reason that the irritation from the tube during strained expressure undoubtedly caused a certain amount of gastric juice to be secreted; therefore I think it preferable to omit the experiments referring to this individual.

II. The behavior of the galvanic current applied to the internal stomach-wall in those with digestive troubles.

1. Theodore S——, forty-seven years of age, suffering with dilatation of the stomach with hyperacidity.

a. September 29, 1891.—When fasting the stomach was found to be empty. *α.* Drinks 100 c.c. of water and swallows the electrode which is left in the stomach for ten minutes. 50 c.c. of the contents: HCl + ; acidity = 12. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). 70 c.c. obtained: HCl = 0; acidity = 5.

b. September 30th.—When fasting, stomach empty. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes, the contents obtained = 30 c.c.: HCl + ; acidity = 16. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (positive pole in the stomach). 150 c.c. obtained: HCl + ; acidity = 16.

c. October 1st.—When fasting, stomach empty. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes the contents obtained = 70 c.c.: HCl + ; acidity = 18. *β.* Drinks 100 c.c. of water and is faradized for ten minutes. Obtained 70 c.c.: HCl + ; acidity = 18.

2. Jacob M——, twenty-four years of age. Diagnosis: Anæmia, dilatation of the stomach, hyperacidity, enlarged spleen in consequence of previous malaria.

a. October 13th.—When fasting the stomach contains 20 to 30 c.c. of a viscid, opalescent, turbid fluid, of a slightly alkaline reaction. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes, contents obtained = 100 c.c.: HCl + (traces); acidity = 10. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 120 c.c.: HCl = 0; acidity = 12.

b. October 16th.—When fasting, only 5 c.c. withdrawn, the reaction being slightly alkaline. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes obtained 115 c.c. (about 15 c.c. of mucus): HCl + (traces); acidity = 12; rennet ferment +. *β.* Drinks 100 c.c. of water and is gastro-faradized internally for ten minutes. Obtained 100 c.c. (about 15 c.c. of mucus): HCl + (well marked); acidity = 14; rennet +.

c. November 5th.—When fasting, only a few c.c. found in the stomach with HCl = 0; reaction, weakly acid. *α.* Drinks 100 c.c of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 40 c.c.: HCl = 0; acidity = 2; rennet ferment coagulation after one hour.

d. November 8, 1891.—When fasting, about 20 c.c.: HCl +. *α.* Drinks 100 c.c. of water and is galvanized (positive pole in the stomach). Obtained 60 c.c.: HCl + ; acidity = 24. *β.* Drinks 100 c.c. of water and is faradized directly for ten minutes. Obtained 120 c.c.; the fluid turns green after standing a little while; this indicates an admixture of bile: HCl + ; acidity = 24.

3. Aaron W——, thirty-three years of age; dilatation of the stomach, hyperacidity.

a. November 14th.—When fasting, about 20 c.c.: reaction acid; HCl = 0. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes the contents obtained = 100 c.c. (with a greenish color of admixed bile): HCl + ; acidity = 20.[1] *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 50 c.c.: HCl + ; acidity = 20.

b. November 27th.—When fasting, 20 c.c.: reaction, very faintly acid; HCl = 0. *α.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes, obtained 95 c.c.: HCl = 0; acidity = 4. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 60 c.c.: HCl + (traces); acidity = 16.

[1] The degree of acidity of the contents must have been lessened by the admixture of the bile, and would have been higher otherwise.

c. November 27th.—When fasting, 10 c.c. : HCl +. *a.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes obtained 100 c.c. : HCl + (traces); acidity = 10. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 100 cc. : HCl + (traces); acidity = 10.

d. November 30th.—When fasting, 25 c.c. stomach-juice : HCl +. *a.* Drinks 100 c.c. of water and swallows the electrode. After ten minutes, obtained 70 c.c. : HCl + ; acidity = 18. *β.* Drinks 100 c.c. of water and is galvanized for ten minutes (negative pole in the stomach). Obtained 100 c.c. : HCl + ; acidity = 32.

The following table shows the results of all the trials just described :

rent applied directly to the stomach produces a secretion of hydrochloric acid (no difference being noticed whether the positive or negative pole be in the stomach). The reason for the divergence of opinion might perhaps be found in the circumstance that Jones made use in his experiments of the Stockton electrode, which, in the same way as the ordinary stomach-tube, must act as a potent irritant on the stomach-wall. Jones states, however, that he did not find any hydrochloric acid in his control experiments.

Whereas the faradic current in these experiments seems to augment the gastric secretion, the galvanic current appears rather to exert a slightly diminishing action in the production of gastric juice, especially when the negative

TABLE CONTAINING THE DIFFERENT TRIALS IN REFERENCE TO THE BEHAVIOR OF THE DIRECT GALVANIZATION OF THE STOMACH.

I.—IN PEOPLE WITHOUT ANY STOMACH COMPLAINTS.

No.	Name.	Age (Years).	Date.	Nature of the experiment.	HCl.	Acidity.	Remarks.
1	Franz R.....	27	August 22, 1891....	Control experiment.....	0	12	
	"	.....	" " "	Galvanization negative....	0	6	
2	"	.....	" 25, 1891....	Galvanization negative....	0	2	Rennet = 0.
3	"	.....	" 27, 1891....	Galvanization negative....	+ weakly.	16	
4	George N. J...	45	October 6, 1891.....	Control experiment.....	+	10	
	"	.....	" " "	Faradization	+	13	
5	"	.....	" 15, 1891.....	Control experiment.....	0	4	
	"	.....	" " "	Galvanization negative....	0	2	
6	Rosa N.....	27	August 11, 1891....	Galvanization negative....	0	4	
	"	.....	" 12, 1891 ...	Galvanization positive	0	—	Reaction weakly alkaline by the admixture of duodenal secretion.
	"	.....	" 25, 1891 ...	Faradization	0	4	

II.—IN PEOPLE WITH STOMACH COMPLAINTS.

No.	Name.	Age (Years).	Date.	Nature of the experiment.	HCl.	Acidity.	Remarks.
1	Theodore S....	47	September 29, 1891.	Control experiment.....	+	12	
	"	.....	" " " .	Galvanization negative....	0	5	
2	"	.....	" 30, 1891.	Control experiment	+	16	
	"	.....	" " " .	Galvanization positive.....	+	16	
3	"	.....	October 1, 1891.....	Control experiment.....	+	18	
	"	.....	" " "	Faradization	+	18	
4	Jacob M.....	24	" 13, 1891....	Control experiment.....	+ traces.	10	
	"	.....	" " "	Galvanization negative....	0	12	
5	"	.....	" 16, 1891	Control experiment.....	+ traces.	12	Rennet +.
	"	.....	" " "	Faradization	+ clearly.	14	Rennet +.
6	"	.....	November 5, 1891..	Galvanization negative....	0	2	Rennet ferment coagulation after one hour.
	"	.....	" 8, 1891..	Galvanization positive.....	+	24	
	"	.....	" " " ..	Faradization	+	24	
7	Aaron W.....	33	September 14, 1891.	Control experiment.....	+	20	The contents looked greenish from an admixture of bile.
	"	.....	" " " .	Galvanization negative....	+	20	
8	"	.....	November 24, 1891.	Control exp riment.....	0	4	
	"	.....	" " " .	Galvanization negative....	+ traces.	16	
9	"	.....	" 27, 1891.	Control experiment.....	+ traces.	10	
	"	.....	" " " .	Galvanization negative....	+ traces.	10	
10	"	.....	" 30, 1891.	Control experiment.....	+	18	
	"	.....	" " " .	Galvanization negative....	+	32	

From the above-mentioned table it seems that direct galvanization of the stomach—the negative pole being within this organ—does not heighten the secretion of gastric juice; it seems rather to have a tendency to diminish the degree of acidity in healthy as well as in those with stomach troubles; *i.e.*, the presence of the electrode in the stomach without galvanization produces in a given time more gastric secretion (or rather acid) than the presence of the electrode combined with galvanization (negative pole in the stomach). This, however, was not the case in the patient Aaron W—— (Table II., 8 and 10), where an increase of acidity was twice observed. The experiments made with galvanization, the positive pole being in the stomach, were very few, and once the degree of acidity was found equal to that in the control experiment (Table II., 2). At another time the patient was examined, first with the negative pole in the stomach, then with the positive pole in the stomach (Table II., 6); here the acidity was higher when the positive pole was in the stomach than when the negative pole was there; but there was no control experiment made.

These experiments with direct galvanization are not numerous enough to allow any positive conclusions to be drawn and will have to be completed in the future.

The figures obtained, however, are not in accordance with the views of Allen E. Jones,[1] that the constant current applied directly to the stomach produces a secretion of hydrochloric acid (no difference being noticed whether the positive or negative pole be in the stomach). The reason for the divergence of opinion might perhaps be found in the circumstance that Jones made use in his experiments of the Stockton electrode, which, in the same way as the ordinary stomach-tube, must act as a potent irritant on the stomach-wall. Jones states, however, that he did not find any hydrochloric acid in his control experiments.

Whereas the faradic current in these experiments seems to augment the gastric secretion, the galvanic current appears rather to exert a slightly diminishing action in the production of gastric juice, especially when the negative pole is in the stomach. Should we wish to utilize therapeutically these experimentally obtained conclusions, we would expect theoretically that the faradic current would be more advisable in cases of subacidity, whereas the galvapic current would be preferable in cases of hyperacidity. But in reality we shall see later on that this cannot be made an axiom for the therapeusis. There were cases of hyperacidity which greatly improved by the faradic treatment, and on the other hand there were cases with subacidity in which the faradic current did not bring much benefit and the galvanic current proved very useful.

My above-mentioned experiments are all made for the purpose of seeing what electricity does right away, *i.e.*, during the electrization itself. It will certainly be important to determine what the stomach does a little while after the electrization. Experiments relating to this point I shall make later on.

After this long deviation I would like to return to my proposed subject, namely, to the therapeutic efficacy of direct electrization of the stomach.

A. **Direct Faradization of the Stomach.**—As stated in my last paper,[1] direct gastro-faradization has been applied from time to time by several authors, although quite seldom. There is very little literature to be found in regard to this subject. I highly appreciate the work of

[1] Jones, loc. cit.

[1] M. Einhorn, MEDICAL RECORD, loc. cit.

Charles G. Stockton,[1] who applied direct gastro-faradization in a great number of cases (dilatation of the stomach and many functional disturbances of this organ going along with hyperacidity and also subacidity), and warmly recommended this method of treatment. In his elaborate paper Stockton, trying to give an explanation for the efficacy of electrization, says:

"Exactly what rôle is played by faradization I am unable to state; whether it is a gastric sedative or a gastric stimulant I do not know. My efforts were in the direction of study, and the results were so favorable that I applied faradism to cases seemingly contradictory in character, and I have concluded that the great variety of gastric neuroses depend upon a common cause—an imperfect innervation of the stomach; that electricity improves this innervation, thereby relieving the cause and so the conditions which, at first thought, are so contradictory."

As the subject of direct gastro faradization is quite new and very important in practice, I do not think it superfluous to describe and fully discuss a sufficient number of cases representing the various types of stomach diseases treated by this method.

In all my cases the deglutable electrode was made use of and the method of application was the same as I gave it in the above-mentioned paper.

From June, 1890, to November, 1891, I have had the opportunity of undertaking this mode of treatment by direct gastro-faradization in 29 patients. The same may be classified as regards their diseases as follows: Hyperacidity combined with dilatation of the stomach, 12 (among these, three with severe gastralgia and one with continuous hypersecretion); gastroxynsis, 1; belching, atony of the cardia, 3; chronic gastric catarrh (gastritis glandularis chronica), 4; chronic gastric catarrh with beginning atrophy of the mucous membrane of the stomach, 3; anadenia ventriculi (atrophy of the mucous membrane of the stomach). 1; severe gastralgia, 5; (one among them with gastro succorrhœa continua chronica).

1. *Hyperacidity.*—March 12, 1891.—H. J. F——, thirty-three years of age, merchant, suffered for about three years from pains after meals. For several months the distress after eating increased to such an extent that the patient was forced to (spontaneously) produce vomiting after each meal, in order to obtain some relief in this way. The appetite was very poor. The examination showed the lower border of the stomach situated midway between the umbilicus and the symphysis.

March 13th.—The examination of the stomach contents one hour after the test breakfast shows: HCl +; acidity = 96. Diagnosis: Dilatation of the stomach, hyperacidity, and gastralgia. Besides the usual treatment with alkalies the patient was gastro-faradized internally. After the third electric séance the patient noticed that the pains had grown less and that he ate with good appetite on the days when electricity was applied. In about a month's time (at the beginning of April) the condition of the patient had been ameliorated to such a degree that he had no pains and could enjoy his meals thoroughly. According to a letter which he sent me on October 24, 1891, he had been free from pains and enjoyed good health since the time of the electrical treatment.

2. August 15, 1890.—Julius K——, aged thirty-six, laborer; suffered for about three years from obstinate constipation; with this he has headaches and a sensation of fulness in the stomach. No vomiting. There is constant repeating, sometimes of water, in such a way that the patient's throat has become roughened by it. He has lost forty-five pounds in weight. Examination shows the lower border of the stomach situated two to three fingers' width below the navel. When fasting, gastric juice is present in the stomach.

September 16th.—When fasting, the stomach contains 60 c.c. of juice: HCl +; acidity = 90.

September 18th.—One hour after test-breakfast: HCl +; acidity = 100. Diagnosis: Gastrosuccorrhœa continua chronica; hyperacidity; dilatation. Therapy: magnes. ust, pulv. rhei, āā 7.5; sodii bicarb., sacch. lact., āā 25.0. One teaspoonful three times a day; washing of the stomach.

After this treatment, chiefly with alkalies, the condition of the patient was ameliorated, but there remained the feeling of fulness. Gastro-faradization was applied internally twice a week for about two months (August and September, 1890). After a few sittings the patient asserts that he feels much easier; he gains in weight and the distress after meals does not manifest itself. The objective examination shows, however, that there is still hyperacidity and hypersecretion, although in a less degree.

3. T. E. H——, thirty years of age, merchant; has digestive troubles of several years' standing; there is loss of appetite, very frequent repeating; pains from time to time; feeling of fulness after meals; constipation.

The examination reveals: lower border of the stomach three to four fingers' width below the navel (gastrodiaphany); here splashing can be elicited. One hour after test-breakfast: HCl +; acidity = 120.

Therapy: Alkalies and direct gastro-faradization (April 1 to 26, 1891). After a few days of this treatment the condition of the patient becomes ameliorated; he enjoys his meals; bowels regular; repeating lessened. April 26th the patient asserts that he is free from any trouble whatsoever.

Eight other cases so much resemble the three cases just described, as regards the symptoms as well as the treatment and the influence of faradization, that I may be allowed to abstain from giving a full record of them.

II. *Gastroxynsis* (Rossbach).—August 31, 1890.—George N. J——, forty-two years of age, merchant, suffered for five years from frequently appearing attacks of pains in the region of the stomach; these attacks were usually accompanied by vomiting of highly acid substances; they recurred once every three to four weeks and lasted about three days. During the attack the patient felt miserable and down-hearted, suffered from severe pains; was not able to eat anything and vomited frequently. When the attack was over the patient felt perfectly well, except that his sleep was somewhat disturbed. The physical examination shows: Chest and abdominal organs intact; the patellar reflex present; stomach not dilated (the site of the stomach having been determined by gastrodiaphany).

August 31, 1891.—One hour after test-breakfast, HCl +; acidity = 66. Diagnosis: Gastroxynsis (Rossbach).

Treatment: The patient was directly gastro-faradized every other day during September, and twice a week during October, 1891. He had no attack during the time of treatment, nor any thus far after the treatment; sleeps well, and feels stronger and full of life.

III. *Repeating.*—Repeating is a symptom which occasionally appears and accompanies the most various disturbances of the stomach-function. Here, however, a few cases might be described in which this symptom was the main complaint and overshadowed all other distress.

1. October 7, 1890.—Henry L——, forty years of age, suffered several years from frequent repeating; during the last year the repeating increased to such a degree that the patient was partly unable to attend to his business; besides this, he had for several months the sensation of fulness after meals and a tired feeling; appetite pretty fair; bowels somewhat constipated. Status præsens: chest intact; the palpation of the abdomen reveals splashing sounds in the gastric region; these sounds can be produced and heard down to a point two fingers above the navel.

October 10, 1890.—One hour after a test-breakfast: HCl +; acidity = 80.

Diagnosis: Hyperacidity and atony of the cardia.

Treatment: Alkalies and direct gastro-faradization twice to three times every week.

[1] Clinical Results of Gastric Faradization, American Journal of the Medical Sciences, 1890, p. 20.

After a few sittings the patient felt better, and on November 6, 1890, the electrical treatment was discontinued. The patient said several months afterward that he had not been troubled any more from repeating after the discontinuation of the electricity.

June 4, 1891.—The patient called on me again, complaining of distress in his stomach in consequence of an acute indigestion; the appetite was lessened and the repeating had partly returned. The patient was directly gastro-faradized twice a week from June 4th to June 19th and thereafter only once a week until July 27th. The distress of the patient, especially the repeating, disappeared during the first fortnight's treatment; the electricity was applied, however, a little longer as a means of precaution. Since that time the patient has been free from his complaints.

2. Miss Emma M——, twenty-four years of age, suffered for three years from loss of appetite, repeating, constipation, and poor sleep; there was no vomiting but repeating of acid fluid after meals. One of the worst complaints of the patient was of this highly annoying ructus, which never left her, and in consequence of which she was retarded in her occupation and frequently kept away from society.

April 1, 1891.—Status præsens: Tongue thickly coated; splashing sound from the stomach to a point two fingers' breadth below the navel; the right kidney is clearly palpable and easily moved. Examination of the stomach in the fasting condition by means of a tube shows that there is bile mixed with gastric juice in the stomach; also after the trial breakfast the contents of the stomach were usually found mixed with bile, as will be seen from the following memorandum:

April 3d.—One hour after the trial breakfast: HCl + ; acidity = 68; admixture of bile.

April 5th.—When fasting, the stomach contains 70 cc. of an intensely yellow-colored fluid (bile present): HCl +.

Diagnosis: Enteroptosis; acidity only slightly increased, hypersecretion; relaxation (atony) of the cardia and the pylorus.

The treatment consisted in direct gastro-faradization and once in a while washing of the stomach. During the month of April the faradization was applied every other day, and the lavage of the stomach once a week in the fasting condition. On these occasions, before the washings, the stomach was examined each time in regard to its contents; during April each examination revealed the presence of quite a large amount of bile mixed with gastric juice in the stomach when fasting. Later on the amount of fluid found when fasting gradually decreased, and during June the stomach was found to be either empty or there were occasionally a few cubic centimetres of gastric juice, but without the admixture of bile. The patient felt better after a few days' treatment; the repeating disappeared almost entirely at the end of April, and she could eat with good appetite, having no distress afterward.

During June and July the faradization had been applied once a week and thereupon stopped entirely. The patient gained several pounds during treatment, and has been pretty free from complaints since that time.

3. Mrs. H. G——, about forty-three years of age, complained for several years of a feeling of fulness, poor appetite, and frequent repeating. Whereas all the other digestive inconveniences manifest themselves for a longer period of time, the repeating never ceases entirely, and annoys the patient more than the other symptoms.

Status præsens: Patient looks well-nourished and of a healthy color; tongue slightly coated; chest normal; palpation of the abdomen does not reveal anything abnormal, except, perhaps, a certain sensitiveness on pressure over the gastric and epigastric regions. One hour after the test-breakfast: HCl + ; acidity = 50; lactic acid +. The stomach contents mixed with much mucus.

Diagnosis: Gastritis glandularis chronica; atony of the cardia.

The treatment consisted of the administration of nux vomica and direct gastro-faradization, at first every other day, and thereafter twice a week from September 16 to October 23, 1891. After a week's treatment considerable amelioration was noticeable, inasmuch as the appetite had improved and the repeating decreased. October 13th the patient had no complaints from the digestive apparatus and the repeating had disappeared almost entirely. The tongue was clean and the examination of the stomach contents one hour after the test-breakfast showed: HCl + ; acidity = 60; lactic acid not present; the amount of mucus very slight.

IV. *Chronic Gastric Catarrh* (*Gastritis Glandularis Chronica*).—Besides the last case of chronic gastric catarrh mentioned under the sub-heading "Repeating," four cases of this sickness were treated by direct gastro-faradization.

One of these cases was Captain L. M——, suffering from neurasthenia and chronic gastric catarrh, accompanied by dilatation. Here the direct gastro-faradization had been administered for about a month, but without any benefit whatever; all the symptoms continued just as before. The other three cases resembled each other very much and the report of one of them will be sufficient as an illustration.

September 18, 1891.—Mrs. L. W——, about twenty-six years of age, suffered for about four years from frequently recurring digestive disturbances (poor appetite, pains in the region of the stomach and in the abdomen); she had been treated by several competent physicians, sometimes with good results. During the last summer the general health of the patient was impaired; the complaints, however, greatly increased during the past six weeks; there appeared pains in the region of the stomach, the patient could not eat sufficiently, for soon after partaking of the food she had a sensation of being laced; she could not sleep, and suffered much from repeating and flatus; during the summer she lost in weight considerably.

Status præsens: Patient has a pale appearance and frail structure; color of lips and cheeks pale; tongue coated; chest organs normal; abdominal wall relaxed; the abdomen slightly distended; the epigastric region somewhat painful on pressure; the splashing sound can be produced below the left margin of the ribs down to a point three fingers' width above the navel.

September 19th.—One hour after the test-breakfast: HCl = 0; lactic acid + ; acidity = 60; erythrodextrin + much; mucus present.

September 22d.—When fasting, stomach is found empty; lavage brings up very little mucus.

Diagnosis: Gastritis glandularis chronica.

Treatment: Nux vomica, HCl, gymnastics, cold washing and rubbing of the body, and direct gastro-faradization, the first fortnight every other day and thereafter twice a week (the faradization was applied from September 23, to October 20, 1891).

Soon after the beginning of this treatment the patient felt better; she could partake of more food; the pains first decreased in severity, and soon disappeared almost entirely. The patient gained during treatment (six to seven pounds) and obtained a good and healthy color.

October 1st.—The examination of the stomach contents one hour after breakfast showed: HCl + ; lactic acid = 0; acidity = 56. The muriatic acid was discontinued, and arsenic and iron given instead.

October 23d.—The examination of the stomach contents one hour after the test-breakfast showed: HCl + ; lactic acid not present; acidity = 60. Notwithstanding there were now no complaints from the stomach, the patient had once in a while (once in from five to seven days) a pain appearing at a place located two fingers' width below the lower margin of the left ribs, and lasting for about half an hour. In order to combat this the galvanic

current had been applied, negative pole in the stomach, the positive electrode at the painful spot. November 2d, the patient asserted that the pain appeared only once after galvanization and was very mild.

(To be continued.)

REPORT OF ONE HUNDRED AND THIRTY-SIX CASES OF CATARACT EXTRACTION, WITH REMARKS.[1]

By DAVID WEBSTER, M.D.,

NEW YORK.

I REPORTED thirty-five cases of cataract extraction to this Society at its Nineteenth Annual Meeting, and again, in July, 1886, I reported an additional fifty cases. Since that time I have operated upon one hundred and thirty-six eyes with uncomplicated cataract, in private and in hospital practice. Twenty of these eyes were operated upon by the method then most common, von Graefe's method modified; the remaining one hundred and sixteen by the simple method.

In performing the simple extraction, I have commonly used a speculum and fixation forceps. In most cases the speculum was not removed until the operation was finished; in some cases it was removed as soon as the cut was made, and in a few cases no speculum was used at all, the lids being held open by an assistant. At present my feeling is in favor of removing the speculum on finishing the section. It seems to me that by so doing we may sometimes avoid the loss of vitreous that comes from sudden spasmodic squeezing of the eye with the speculum in it. I make my cut upward, with the Graefe knife, large enough to include a little less than half of the circumference of the cornea, all the way in the limbus or semi-transparent cornea, and completing it so as to make a slight conjunctival flap, if possible. In some cases I have had to turn the edge of my knife forward so as to avoid wounding the iris, and so brought the apex of the cut out in the clear cornea. I dislike such a complication, as it is very likely to be followed by grooving of the wound and delayed healing, with a good deal of irritation of the eye. But it seems preferable to mutilation of the iris.

In lacerating the capsule, I have tried to avoid injuring the iris. I have endeavored to make the opening in the capsule at the lower border of the pupil, thinking that in this way a secondary operation might sometimes be avoided. I have usually expelled the lens by pressure on the lower border of the cornea with a tortoise-shell spoon, though sometimes I have used only pressure with my thumb upon the lower eyelid. I have in no case attempted to syringe out the remaining cortical matter. What I have failed to remove by manipulation has remained in the eye, and I am not sure that it has, in any case, given rise to bad results. It simply delays the restoration of good vision. In cases in which the iris remained in the wound after the removal of the lens was accomplished, I have endeavored to replace it by gently rubbing the upper lid of the closed eye. Where that would not restore it to its normal position, I have pushed it back with a rubber spatula. I have endeavored, in all cases, to leave the pupil clear, central, and circular.

All, or nearly all, the operations were done under cocaine, and of this a sterilized four per cent. solution was dropped into the eye three or four times. I like to have the cocaine dropped into the eye long enough beforehand, so that the pupil may be slightly dilated when the operation is commenced. Fifteen or twenty minutes will be sufficient. Immediately before operating, I have washed the eyelids, inside and out, with Panas's fluid, using it very freely. All the instruments used are carefully cleansed in boiling water, before and after the operation. The hands of the operator and of his assistants are washed with soap and water, and the finger-nails scrupulously cleansed.

[1] Read before the American Ophthalmological Society, on September 23, 1891.

Before dressing the eye, immediately after the extraction I first instil a drop of solution of eserine, gr. j. ad ʒj. I then apply a little white vaseline to the edges of the lids to keep them from sticking together. I then apply a prepared wad of absorbent cotton over both eyes, and over that a roller bandage of the thinnest flannel. Over the flannel bandage I apply a parallelogram of black silk lined with cotton, and with a tape at each corner, so as to make a four-tailed bandage, tied so that the knots will be at the side of the head. I let my patient sit up from the first if he desires to. Unless the patient complains of pain in the eye, or that the bandage is too tight or in other respects uncomfortable, I do not remove it until about forty hours after the operation. If the eye is doing well, and the wound has healed, after washing both eyes, I apply clean cotton compresses, and again tie on the black silk dressing, leaving off the roller bandage. If the anterior chamber is still empty, I reapply the whole dressing as at first. In favorable cases both eyes are kept tied up for from five to ten days. Then the cotton is left off and the lower strings of the black silk dressing cut off, so that it becomes simply a shade hanging down over the eyes. I think it important that both eyes should be kept tied up until the wound has become thoroughly healed, for if one is left uncovered it will roll about, and the wounded eye will roll about with it, and the healing will thus be delayed.

On about the fifteenth day, or as soon as the eyes seem strong enough, the shade is removed and medium smoke coquille glasses substituted. I like to defer fitting the patient with glasses until all redness has passed off from the eye.

Visual Results.—Of my 20 cases of extraction by von Graefe's method the resulting vision was as follows: In 1 eye vision was $\frac{20}{20}$; in 2 eyes, $\frac{20}{40}$; in 1 eye, $\frac{20}{50}$; in 1 eye, $\frac{20}{60}$; in 1 eye, $\frac{20}{70}$, in 9 eyes, $\frac{20}{200}$; in 1 eye, $\frac{15}{200}$; in 1 eye, $\frac{10}{200}$; in one eye, counting fingers; in 1 eye, perception of light; in 1 eye, 0.

According to the commonly accepted standard this would give: Successes, 15, or seventy-five per cent.; partial successes, 3, or fifteen per cent.; failures, 2, or ten per cent. Upon twelve of these eyes no secondary operation was performed. Five of them had one keratonyxis each. Two of them had two needlings each. One of them had two needlings and an Agnew's hook operation.

The patient whose final vision was ability to count fingers had vision = $\frac{20}{70}$ following a keratonyxis done thirty days after the extraction. A second needling was done about three and a half months later, and was followed by increased tension. Under the use of eserine the vision came up to $\frac{15}{200}$. Three weeks later a membrane was removed from the pupillary area by means of a sharp hook. The immediate result seems not to have been noted, but my recollection is that the sight of that eye was good until nine months later, when an attack of acute glaucoma was developed during recovery from an extraction of the cataract from the other eye, and vision was reduced to counting fingers.

The case resulting in perception of light only, lost the eye by plastic iritis, or irido-cyclitis, resulting in closure of the pupil and anterior atrophy. The patient whose vision was *nil* was an unruly man, who tore off his bandages as often as they were replaced, and who finally died of meningitis, the result of panophthalmitis, eighteen days after the operation.

Of my 116 cases of simple extraction the resulting vision was as follows: In 11 eyes, vision was $\frac{20}{15}$; in 15 eyes, $\frac{20}{20}$; in 23 eyes, $\frac{20}{30}$; in 24 eyes, $\frac{20}{40}$; in 13 eyes, $\frac{20}{50}$; in 11 eyes, $\frac{20}{60}$; in 4 eyes, $\frac{20}{100}$; in 5 eyes, $\frac{20}{200}$; in 1 eye, $\frac{18}{200}$; in 1 eye, $\frac{15}{200}$; in 2 eyes, $\frac{10}{200}$; in 1 eye, $\frac{5}{200}$; in 1 eye, "sees objects;" in 1 eye, "perception of light;" in 1 eye, 0; in 2 eyes, not noted.

There were, then, 106 eyes that had vision of $\frac{20}{200}$ and better, or, successes, ninety-one per cent.; 6 eyes that had vision from $\frac{15}{200}$ to seeing objects, or partial successes, five per cent.; and 4 eyes that had vision "perception of light," or 0, or three per cent. failures.

The case noted as resulting in "perception of light," was one in which suppurative iritis set in, beginning at the wound, which was cauterized without arresting the disease. Closure of the pupil and a soft eyeball resulted, so that any further operation seemed out of the question.

The case in which vision is noted as nil had one eye operated upon previously with excellent result. The eye that was lost did well up to the fifth day, when the wound was entirely healed, the pupil central, circular, and black, and the eye looking so well that the dressing was left off and only the black shade applied. The next day there was a good deal of redness of the eye, with secretion, and on the following day well-marked purulent ophthalmia had set in, which resulted in total loss of vision.

In one of the cases in which the vision was not noted we find a history of violent insanity setting in on the day after the operation, and the patient had to be sent away from the hospital on the third day. For aught that I know she may have recovered with a good eye, but on the whole I thought it best to class her case with the failures. In the other case there was prolapse of the iris. This was excised, and the hospital history says she steadily improved, and she went home on the sixteenth day and there are no further notes of her case; so I put her also with the failures.[1]

Prolapse of iris occurred and had to be excised in 5 cases out of the 116, or in four per cent. The actual cautery was applied in 2 cases, in 1 of prolapsed iris where excision proved to be insufficient, and in 1 case where suppuration of the wound occurred. Needling of secondary membranes in the pupil was performed in 50 cases, or in forty-three per cent. of all the cases. Agnew's hook operation was resorted to in 3 cases in which needling had failed. Paracentesis was done in 1 case in which increased tension had developed itself. The eye recovered with good vision.

As to accidents during the operation, in 2 cases the iris fell before the knife and was wounded in cutting out.

In 6 cases there was loss of vitreous. In 2 of these cases the lens became dislocated, and on making pressure in the usual way the vitreous presented at the wound instead of the lens. The wire spoon was then introduced and the lens withdrawn with loss of vitreous. In 1 case the patient squeezed his eye and expelled the lens in its capsule with vitreous *per saltum*. In the other 3 cases the vitreous followed the lens while it was being pressed out in the usual way, the patient losing control and contracting his orbicularis spasmodically.

I usually instil a drop of a one per cent. solution of atropine on the third or fourth day after the extraction, experience having shown that even in cases where there is no apparent iritis, sufficient bruising of the iris may have occurred to produce adhesions to the capsule.

As to the management of prolapse of the iris occurring during recovery from the simple extraction, my experience strongly biases me in favor of early excision. I have watched the prolapse in several cases, and have seen it increase day after day, the eye at the same time becoming more and more irritable until the prolapsed iris was excised, and in such cases I have regretted that I had not cut it off when it first appeared. I once replaced it with the spatula, but it had reappeared as large as ever when the eye was next opened, and had to be excised in the end.

It is safer to give ether for excision of prolapsed iris, as cocaine generally proves insufficient to make the operation painless, and the patient is apt to move the eye suddenly as soon as the iris is seized by the forceps, and before the scissors can be used. When cut off with the scissors without traction with the iris forceps, some iris is commonly left in the wound, and the eye heals with synechia anterior.

[1] This patient returned to the hospital and an iridectomy was performed on the eye, and on November 27th her vision was $\frac{3}{100}$, thus taking her case out of the losses and placing it with the partial successes.

THE NECESSITY FOR EARLY MECHANICAL TREATMENT IN INFANTILE SPINAL PARALYSIS.[1]

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GOWERS, in his "Diseases of the Nervous System," after having sketched the symptoms of infantile spinal paralysis, or, as he calls it, atrophic spinal paralysis, says that the disease may be divided into four stages:

1. An initial stage of paralysis, rapidly increasing, often accompanied with fever; the duration of this stage is from a few hours to a week.

2. A stationary period, which lasts from a week to a month.

3. A stage of "regression," during which the palsy passes away, except from certain parts in which wasting occurs. This regressive period usually occupies from one to six months.

4. A chronic stage, during which the atrophy continues; slight improvement may occur, but contractures and deformities are developed. The duration of this stage is indefinite. Improvement often occurs after three, six, or twelve months, but is then usually slight, and often more than counterbalanced by the interference with growth and by the occurrence of deformities.

This last or fourth stage is the time when the cases are usually seen by the orthopedic surgeon, but a careful study of the symptoms shows that much might be accomplished if the cases were seen earlier, and that the fourth stage, although it could not be prevented, would be much changed, and the deformities and contractures might be avoided, or at least much diminished. We know that in nearly all cases the paralysis at first is extreme, yet the large majority recover, the amount of power that is regained varying in different cases; and it thus becomes an important question to decide as early as possible how much motion will be recovered. During the febrile attack neurologists tell us that no positive information can be given, but that by the end of the first week usually, by several careful electrical examinations we may construct a "prognostic line." In the *American Journal of the Medical Sciences* for October, 1891, in an article on "The Responses to the Alternating Galvanic Current in Normal and Degenerate Muscles," by M. A. Starr and Charles I. Young, such a line has been worked out in the case reported. Mr. Young says: "We, moreover, think that we are justified in assuming that if, with a given current, a healthy muscle will respond to a rate of alternation which will not affect a degenerated one, an increase in the rate to which the degenerated muscle will respond shows increased susceptibility in that muscle, and a tendency to approach, in some way, the condition of a healthy one."

Duchenne first showed that the muscles in which faradic reaction remained, recovered, and Starr, in "Familiar Forms of Nervous Disease," quotes a case in which the left leg was at first totally paralyzed, but the faradic reaction did not disappear in any muscle except the tibialis anticus. After four weeks it returned in that muscle, and at the end of one year all muscles except the tibialis anticus had regained their natural size and power, and after two years the recovery was perfect in the entire limb. In the muscles which present at the end of six weeks the reaction of degeneration perfect recovery is very rare.

With this information supplied us, if it is clearly shown that the paralysis will be more or less complete, it then becomes our duty to guard against the deformities which are sure to follow.

All writers recognize the necessity of mechanical treatment in the later stages of the disease, and various operations are resorted to to correct deformities; but Bradford and Lovet, in their work on "Orthopedic Surgery," are the only authors I know of who have advised that "pro-

[1] Read before the Orthopedic Section of the New York Academy of Medicine, October 16, 1891.

tective treatment" be instituted at once, that the limbs be kept in normal position, so that the affected muscles and joints may be supported, and troublesome deformities avoided.

The deformities are usually due to two causes, trophic changes in the limbs, and muscular paralysis of one set of muscles, permitting the opposing set to contract and thus change the normal relations of the limb.

The deformities due to trophic changes are of considerable interest, but rarely demand much treatment. Starr, in "Familiar Forms of Nervous Disease," stated that in those cases where the growth of bone is affected the lesion lies deep in the gray matter, nearer to the central canal than in other cases. This may be correct, but in fifty cases, seen from two to sixty-one years after the onset of the infantile paralysis, which I have very carefully measured, in only two instances were the limbs exactly of the same length. They vary from ¼ to 3 inches. I hope to discuss this subject more fully in another paper, so will not enter into the details.

This asymmetry produces in some cases a lateral deviation of the spinal column, but as the most shortening usually occurs in the cases having the least power, they are unable to walk well if extra weight is added to the foot either by a patten or cork sole. In cases where the lower extremity is shortened the foot is also always smaller than its fellow, the shortening in many cases being very marked.

The deformities due to paralysis concern us the most, and vary very greatly. The theory that they are caused by unopposed muscular action was opposed by Volkmann, who believed that in cases of equinus, for instance, the force of gravity on the foot was the determining cause of the deformity. Both theories are no doubt partly correct. The deformities occur usually on the flexor side of the limb, and one reason for this in the lower extremity is that the extensors are more often affected than the flexors. The tibialis anticus, the peronei, and the anterior thigh muscles, when paralyzed, naturally permit the foot to be placed in equinus and the knee in flexion. Again, flexion is the position of rest and one most assumed when no special muscular effort is made. Equinus and equino-varus are by far the most common varieties of paralytic club foot.

The muscles being more or less paralyzed, where they pass over joint surfaces do not exercise the same power they otherwise would, and partial luxations may occur. The ligaments, although not affected by the disease, easily become stretched, a faulty position soon becomes aggravated, the tarsal bones, owing to the deformity, acquire new bearing surfaces, false facets may appear, and the many after-effects of a club-foot, such as rotation at knee and hip, soon occur, bursæ may form, and the condition become a serious one to treat.

These after-effects do not seem to me to have been enough appreciated, although clearly set forth in the excellent monograph written by G. Hermann von Meyer, of Zurich, entitled "Der Klumpfuss und seine Folgen für das übrige Knochengerüst."

All of these difficulties may be largely overcome if we will simply bear in mind the regular progress of the disease, in the early stages use strychnia and other drugs, give electricity faithfully and for a considerable period, employ massage and manipulation and heat, and use mechanical treatment from the beginning. Do not permit the contractures to occur. Retain, in the case of the lower extremity, the foot, ankle, and knee in their proper and normal positions. See to it that as the child begins to walk, if disease come on in the first year of life, that it walks on the sole of the foot, and with foot at a right angle to the leg; this is easily accomplished by any of the simple forms of braces. If the disease come on at a later period, see that as soon as walking is resumed the foot is in proper position. If the child show a tendency to contractures before it begins to walk, put the limb up in plaster-of-Paris, a suitable brace, or fasten the limb to a cuirass or frame.

Prevention of deformity should always be our aim; the form of apparatus to be used is to be regulated by the needs of each particular case, care always being taken to as near as possible permit the unaffected muscles to act in their normal relations, and to give the palsied muscles every chance for legitimate action and stimulation. Other details of treatment need not be entered into, as they are familiar to all of us. The nutrition of the parts is also improved by proper mechanical support with muscular training, as is shown by Dr. H. L. Taylor, in his monograph on the "Hygiene of Reflex Action."

If these cases were thus systematically treated and the deformities prevented, it seems to me that possibly some of the deformities now ascribed to trophic changes might be somewhat diminished, as we know that the growth of a bone is somewhat dependent on the growth of the muscles attached to it; and in cases of club-foot, where the patient simply walks on the foot as if it were part of the lower end of the tibia and fibula, not using his extensor or flexor muscles, they certainly do not have the same chance to develop as if they acted properly; and although they may not act perfectly, yet with a proper brace, if they have any power they are so placed that they can develop.

Another point of practical interest, in these deformities due to infantile paralysis, is that in many cases the contractures come on very slowly; the patient may go for several years and then have only a slight equinus, yet that equinus, by the patient's endeavor to walk flat on the foot, may be the cause of a most severe hyperextension at the knee and much subsequent trouble.

If the case recovers power a brace can always be easily removed, and it will have done no damage while being worn; yet a failure to apply it or delay in treatment will certainly never improve the final result.

Dr. Gibney, in a paper read at the meeting of the American Neurological Association in Washington, in September, in speaking of "the supplemental treatment of the paralysis of acute anterior poliomyelitis," says that "a palsied muscle or a group of palsied muscles are often very much handicapped by contractured tendons, or muscles of the opposite side of the limb. Because of these contractures local treatment is inefficient. However efficient the galvanic or faradic current, or even massage, may be, if the muscle is overstretched this efficiency is certainly minimized—a palsied muscle or a group of palsied muscles respond better to local treatment after a period of rest, or at least after being retained for a long time in normal position. This being true, only further emphasizes the necessity for early mechanical treatment in infantile paralysis.

The Brain Jar of the Military Step.—Dr. Colin, regimental physician in the French army, has published the results of his investigations into the effects of regular marching in disciplined bodies upon soldiers. The regularity of the step causes the indefinite repetition of a shock of the bones and brain, infinitely more deleterious than an irregular walk, and to this regular repetition of the shock to the same parts of the body is due the peculiar aches, pains, and illnesses of the troops. In a one-day march, he says, this shock is repeated 40,000 times, and often the strongest men, who can walk the same distance without difficulty when not in line, succumb to the strain in two or three days. Dr. Colin's preventive is a rubber heel in all military boots. This heel has been tried at his instance in the French infantry, he says, and the result has been found to be a great relief to the soldiers. The experiments with the rubber heel are still in progress.

Opposed to Low-necked Dresses.—The mayor of Barfleur, in France, has forbidden the wearing of décolleté dresses by the women of the commune, on the ground that such costume is prejudicial to peace and social morality.

A PHYSIOLOGICAL VIEW OF CRIME.

By A. VAN HOFF GOSWEILER, A.M., M.D.,
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THE best methods of medical treatment and management of the insane criminal; the study of preventive measures; the medico legal relations of the insane; the great variety of interests and social problems concerned, are subjects that not a day passes but the medical superintendent for the insane is engaged in solving. A paper just issued by M. Laccassagne, on criminality in France between 1825 and 1890, contains certain information which may be profitably studied by our alienists and neurologists, if not by practitioners of general medicine. Although some of the facts differ from what occurs in this country, the principles they elucidate are the same. M. Laccassagne divides society into three layers, according to cerebral constitution, and urges medico-jurists to impress upon reformers and philanthropists the necessity of studying criminality from a physiological point of view. There is need of studying the organism and its environment. If the main conditions of a society remain the same, Quatelet shows that crimes are repeated in similar quantity and of similar kinds. It is often insisted, and in harmony with the laws of growth, that it is vastly more important to prevent a criminal from having descendants than it is to reform him. Schopenhauer had long before expressed the thought that the community of bees, for example, develop classes of members adapted to special functions, just as a body develops organs. Darwin shows that these organizations are as plastic under the great force which controls the development of life as the single organisms themselves. One society will, therefore, develop one type of character; another, another; but according to the type of character which it favors will it stand or fall.

M. Ribot, in his recent study of mental diseases after the physiological method of the new psychology, declares that the basis of the psychic individuality of every animal is the organic sense, the sense of the body, usually vague and obscure, but at times very clear to all of us, and that it exists pre-eminently in man. He believes that the organic bond of personal states of consciousness is in the organism, and makes the organism and the brain the real personality.

Crimes against property in France vary in amount with the price of food, and in the statistical table supplied by M. Laccassagne, the years of failure in agriculture show this fact. After 1860, through improved trade with England, offences against property diminished, and these have their maximum in December and their minimum in April. Crimes against persons have their minimum in November, and reach a maximum in June. The New Year's festival and gifts produce an increase of violence. Infanticide is most common in January and February. The vintage season and the carnival increase social errors that lead to these crimes and to others analogous to them. Murders are much under the influence of hot weather, and so are violent assaults and woundings. It is found that the tendency to crime is four times as strong with men as with women, but the latter commit a larger portion of crimes against those in their own circle. They use poison more frequently than men. The moral influence of women on society is evidently negative rather than positive.

The increase of town-population, the fluctuations of trade and wages, the substitution of spirits for light wines in consequence of the damage done the vineyards in certain districts of Southern France by the phylloxera, are causes of the increase of crime. With reference to criminals of low-organized, hereditary type, M. Laccassagne entertains the strange notion that they should be formed exclusively into a society; but this would only add to their degradation and form a dangerous race.

In another recent scientific study, we discover the close relation of race and climate to murder. Professor Bosco's monograph on homicide shows that, while in eight principal states in Western Europe—Spain excepted—with a population of 128,500,000 people over ten years of age, there are 2,777 annual trials for murder. Italy, with 25,000,000 individuals of like age. has 3,606 such trials. France, Belgium, England, Scotland, Ireland, Austria, Holland, Germany, with six times the population of Italy, only furnish three-fourths as many murders. The statistical tables of Dr. Bosco place the civilized nations of Europe, Scandinavia and Russia excluded, in the following ascending order of homicidal criminality: Holland, England, Germany, Scotland, France, Belgium, Ireland, Austria, Hungary, Spain, and Italy—a scale affording suggestion to the psychologist.

Hippocrates believed that all regions liable to violent changes of climate produced men of fierce and stubborn disposition. Buckle declared that the interruption of work caused by instability of climate leads to instability of character. Quatelet says that the number of crimes against property relatively to the number of crimes against the person increases considerably as we advance toward the north. Another eminent student of French criminal statistics, M. Tarde, confirms the opinion of the latter authority, and admits that high temperature does exercise an indirect influence on the criminal passions. But the most exhaustive investigations in this problem have been recently undertaken in Italy by Signor Ferri, whose criminal statistics of France show that crimes against the person rise with the temperature, those against property do the reverse. Clearly, climate has a great influence, but how about India, which is far less homicidal than any European country? India has not half as many homicides annually as England. With this example before us, then, whatever climate has to do with fostering these crimes may be obviated by a better form of social organization. Here racial distinction comes in, and Professor Ferri's table gives this sequence of races, namely: First, the Teutons; the Franco Celt; the mixture of Slav, Latin, and Teuton in Austria; then the Magyar; lastly the Latin. Latin-American, accordingly, is more homicidal than the Anglo-Saxon North.

With us, as in France, the care and treatment of degraded classes are extremely defective. There is too much "hot-house cultivation of crime," and far too little distinction in the treatment of those who are criminals by character and tendency and those who fall into error and vice from special circumstances of temptation. It is quite absurd to repeat imprisonment, even to scores of times, or to punish with short sentences crimes that indicate deeply-rooted defects of character, which only prolonged training can mitigate or remove; that, moreover, manifest mental disorder concomitant with active disease of brain or other organs, recognized or implied; which being pathological, require individualized treatment, restraint, or sterilization; but, if not of this class, many of whom are capable, under direction and authority, of productive labor, as distinguished from hospitals for the insane.

Great protection would result in our country, were the religious and civil authorities to take counsel from the medical profession, by excluding diseased immigrants on arrival at our ports; to object to the marriage and multiplication of those found defective in mind and body. This would not be opposed to the moral interests of the community, but rather in the line of physiological necessity. Evolutionary legislation would prevent early marriage, and forbid marriage where there is no means of supporting offspring. Human selection must be based upon natural selection in order to secure the best political and social evolution.

Offenders used to go free and multiplied their species; but when punishment became a certainty and criminals were isolated for years or transported, their race diminished. Were capital punishment abolished, the three-fourths of English murderers, for instance, that escape through aversion of juries and merciful people to inflict

a savage penalty, would be isolated for life, would be kindly treated, but must have no offspring. Instead of aiming at the murderer, evolution aims at the murder. A recent English writer on crime has said, that the uncertainty of punishment is the great bulwark of crime, and crime has a marvellous knack of diminishing in proportion as this uncertainty decreases.

The educated mind needs little to be convinced that the cause of crime and inebriety is often social and psychical, and, therefore, quite suggestive of a psychical remedy, which, as a matter of treatment, is of great import to society. Prevention, destruction, reformation are the requisites in dealing with crime, but the first is the most practical and valuable. Science and intellectual honesty must be brought to the aid of sentiment, before alienists. philanthropists, and governments can possibly reach the best results.

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TWO CERVICAL MUSCLE ANOMALIES IN THE NEGRO.

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The labors of the dissecting-hall frequently reveal aberrations of structure that excite curiosity and baffle interpretation, if even the attempt be made to explain them. The student of human anatomy from his standpoint—the classic descriptions of his text-books—looks upon an accessory bundle of muscular fibres, an abnormal attachment, or a duplicative subdivision of the same, as little else than a caprice of evolution or an arrest or excess of development; for he has not yet learned the organo-genetic law which teaches that successional stages of embryonal development in the highest organisms constitute permanent conditions of structure in lower animals, or, as Haeckel frames it, "ontogeny is a short repetition of phylogeny."

Restricted in his study to man's anatomy without knowledge of comparative anatomy, he is unable to appreciate this fundamental law of biology, and is apt to consider abnormalities as trivial which are sometimes of great import. Specialization of function is so necessarily dependent upon differentiation of structure, that we ought not to be surprised to discover variations in the arrangements of parts that can be understood only by a reference to comparative anatomy. There is, indeed, scarcely any deviation of the muscular system but what is found to be a permanent, or at least a more frequent, arrangement in some lower animal; a circumstance that should guard us from considering incautiously such irregularities as important racial distinctions, unless their too frequent repetition points undeniably to a permanent reversion of development. The archetypal plan and homologies of the muscular system can be read correctly only after a comprehensive survey of the ontogenetic law of their development. The natural trend of simple analytic conjecture will often drift us into interpretations that regard as perfectly anomalous and beyond explanation what may be easily accounted for as a natural reversion toward some antecedent type of structure.

To accident or chance are necessarily relegated all disturbances in the accustomed uniformity of a recognized order of things, until some dominant principle or governing law be discerned to which such isolated facts become plainly obedient. It is then that the mind perceives the correlation that exists, and how the very irregularity itself serves frequently to emphasize the *law*.

As many still believe, the most salient exponent of mere coincidence is the phenomenon of teratogeny; yet on the alignment and direction of the biogenetic *law* of development we become divorced, even here, from the doctrine of chances, finding every aberrant step of evolution subservient to the controlling influence of the *law*.

It may perhaps be predicted that, as our science progresses, all unexplained coincidences or abnormalities of organic structure shall be eliminated from the domain of accident, and that there then shall be no such word as *chance*.

It has occurred to the writer that some simpler rules may also often guide the student of myology in his attempt to thread together the complexities involved in such anomalies as he may encounter. He would therefore remark, that every muscle has a determinate purpose to fulfil, indicated by its implantation upon the lever or part it is designed to move. Should this point of implantation not be reached, but the insertion occur at a wholly different point, then the muscle under examination ceases to be the one for which it appears to be a substitute. For example, the scalenæ are elevators of the ribs, and should of necessity preserve their costal attachments; now, should a muscular fasciculus be found inserted upon the clavicle, though emanating from the usual transverse cervical processes, we should in nowise regard the muscle as a representative of a scalenus, since, abandoning the ribs, it fails to fulfil its characteristic office. Should, however, the cervical insertion vary to any degree, reaching as high as the axis, the atlas, or even the occiput, provided the costal insertions be maintained, we are still dealing with the scalenus—the elevator of the ribs—though in this instance presenting an anomalous origin. Again, we would formulate another rule of guidance: that a muscle to claim its individuality, so to speak, must be indicated by at least one of its known and necessary attachments, and also by its nerve-supply. The absence of both attachments of a muscle at its accustomed points, would be a forfeiture of all claim to be regarded as any part of the muscle in question, as there could be no possible co-operation in the aims and purposes of such an aberration of structure.

The full significance of the above suggestions will be clearly brought out in the following interpretation here offered concerning a somewhat perplexing anomaly of muscles in the cervical region of a negro subject, that occurred in the dissecting-room this season (December, 1891) which we were requested to inspect and explain.

We were certainly in the presence of a rare occurrence of double cervical muscular anomalies on the same side of the neck, in the same immediate vicinity, and in such singular fellowship apparently as to impose the belief that they were related as duplications of one and the same muscle. It was the ready application of the above suggested rules that signally exemplified their importance in at once unravelling the difficulty.

The anomalous disposition was as follows: A muscle, about two-thirds of an inch in width, composed of parallel fibres with no intermediate tendon nor digastric structure, extended across the neck upward and inward, from the under surface of the clavicle near its acromial end to an insertion upon the body of the os hyoides; while immediately beneath this another muscle of equal size, attached to the clavicle at about the same acromial point, and running in parallelism with the former muscle, from which it was entirely independent, expanded into fleshy and short tendinous strips which were attached to the anterior tubercles of the third and fourth cervical transverse processes.

These superposed muscles, affiliated closely in size, direction, and in an almost common clavicular origin, were regarded naturally as a duplication of the same muscle; but whether one or both represented the omo-hyoideus, which was entirely absent on this side of the neck, seemed still doubtful in the minds of some.

Our explanation of the anomaly was, however, wholly different. This was no duplication of the same muscle, but two entirely distinct muscles. The hyoid connection of one of these muscles in a confluent tendon with the sterno-hyoideus at the same point, declared this to be the real omo-hyoideus attached at its proper upper insertion to the hyoid bones confluently with the sterno-hyoid muscles, though presenting the anomalous origin from the

clavicle, this being nothing more than a displacement of its more usual scapular attachment at the side of and over the coracoid notch of that bone to a near point upon the clavicle.

The underlying second muscle, connected neither with the scapula nor with the os hyoides, was evidently no representative of another double omohyoid; but, on the contrary, was a reproduction in the human subject of a well-known muscle in animals called the levator claviculæ.

Now, to justify this interpretation, we must first enter upon a full exposition of the morphology of the omohyoideus in the early stages of its development in the embryo, for this mode of inquiry can alone explain the cardinal point in its history, but little known, perhaps, even to the best informed anatomists, that this muscle was primordially one and the same structure with the sterno-hyoideus, and should still be regarded as the extreme external border of this last mentioned muscle. Indeed, at an early period of development there exists a broad sheet of parallel muscular fibres attached to the entire inferior or posterior surface of the clavicle, extending the length of this bone and even sometimes beyond it to the scapular notch; from this extensive attachment, muscular fibres, delicate and thin, converge to an apex-like insertion upon the body of the hyoid bone, presenting a fan-shaped muscle that occupies and covers in the inferior supra-clavicular triangle, and represents a permanent condition in some animals. This broad muscle degenerates, or is transformed later on, throughout the greater portion of its middle expanse into an aponeurosis, that becomes the middle cervical fascia, leaving as vestiges of its primitive muscular nature only the extreme internal and external marginal layers of muscular fibres attached still to the sternal end of clavicle on the one hand and to the coracoid notch of scapula on the other, so as to constitute the sterno-cleido-hyoideus and omo-hyoideus, respectively. This shows the origin primordially of these two muscles, and the ready explanation without wonderment of any radiating muscular tissue, at any point from clavicle to hyoid bone, that we might ever meet with; this also accounts for the trace of an aponeurotic band often seen extending through the sterno hyoideus, and the more constant tendinous or digastric construction of the omo-hyoid, bound down toward the clavicle through the middle cervical fascia.

That such a transformation really takes place has been shown by those who have actually traced, under the microscope, muscular tissue running through the cervical fascia in stray fibres, convergingly toward the tendon of the omo hyoideus.

Thus through sufferance the omo-hyoideus is nearly always, but by no means invariably, attached to the coracoid border of the scapula, but occasionally to any point upon the clavicle, though most frequently toward the acromial end. This displacement of the omo hyoideus is familiar to all anatomists, for it has been the subject of very many memoirs by different authors.

The first of these muscles, then, in the anomaly before us, was evidently the omo hyoideus with a displacement of its scapular origin as above explained.

With regard to the other muscle, situated in a plane beneath, and extending from the cervical diapophyses to the clavicle, this so exactly corresponded to a muscle found in animals, that it was recognized to be the levator claviculæ known to comparative anatomists. This muscle exists in all the anthropoid apes, and has sometimes been discovered in man.

In 1869, Wood, at King's College, and in 1879, Testut, in Bordeaux, described it, the latter as follows: "J'ai observé entre le sterno cléido-mastoïdienet le trapèze un muscle surnuméraire qui se rattache manifestement au levator claviculæ. Il naissait de la clavicule, dans une étendue de trois centimètres, par des fibres aponévrotiques excessivement courtes. Ses insertions antérieures étaient séparées du muscle cléido-mastoïdien par un intervalle d'un centimètre; un intervalle double le séparait du trapèze.

"De leur origine claviculaire, les faisceaux charnus se portaient en haut et un peu en arrière, croisant le muscle omo-hyoidien, et se dissimulaient entièrement sous la face profonde du sterno-cléido-mastoïdien. En soulevant ce dernier muscle, j'ai vu mon muscle surnuméraire continuer son trajet vers la colonne vertébrale, diminuer peu à peu de largeur, et finalement se jeter sur un tendon légèrement aplati, qui venait se fixer au tubercule antérieur de l'apophyse transverse de la 3e vertèbre cervicale. J'ai observé ce muscle sur le côté gauche; le côté droit n'en présentait aucune trace."

This citation is here purposely given in the original French, since it accurately describes the muscle found in this negro subject on the left side only.

This is the first and only time I have met with it in man, but Wood has seen it five times, and Cuvier discovered it once, and this was in a negro.

This occurrence in a negro of the musculature of the anthropoid apes, if frequently repeated in the human subject, would point to an unmistakable reversion to an antecedent type of structure, and, as we have above stated, might be taken not only as a racial distinction separating the negro from the Caucasian, but would also indicate a lower grade of development in the black race. The levator claviculæ, however, has not often been found in the human subject, and so far more frequently in the white race than in the negro. There have been, since 1813 up to date, but 22 cases, including the one herein described, recorded of the presence of the levator claviculæ in man, and twice only has it been mentioned in the negro, so far as we can ascertain, once by Cuvier, and now by the writer.

These brief remarks illustrate the importance that should be attached to philosophical anatomy, which views man's organization as a higher and more specialized development of an underlying general plan of structure that pervades the entire class of vertebrates to which he belongs; the perfect knowledge of whose organization is obtained only through a rigid comparison of each member composing this special group of skeleton animals. Thus through transcendental anatomy, released from the mere accumulation of unmeaning facts that only burden the memory, we are enabled to interpret the anomalies and homologies of man's complex structure.

83 Society Street, Charleston, S. C.

A Specific for Tetanus Discovered.—Dr. R. Schwartz, of Padua, announces the successful treatment of tetanus by means of injections of the tetanus antitoxin of Tizzoni and Caltani. These experimenters succeeded in producing immunity against tetanus even in animals susceptible in a high degree, and have shown that the blood-serum exerts an antitoxic action, and is capable of producing immunity against and cure of the disease. They succeeded in obtaining this tetanus antitoxin in a solid state by the addition of alcohol to the serum, and by drying the precipitate *in vacuo*. As the disease in man is of longer duration and less certainly fatal than in many animals, there seemed to be good reason to hope that the tetanus antitoxin might be of great value. Gagliardi, of Molinella, treated a severe case by hypodermic injection of one gramme. All symptoms of tetanus disappeared and complete recovery ensued. Schwartz relates at length the case of a peasant boy, aged fifteen, treated by him.

Chorea.—Out of a total of 18,074 children treated in five years at the polyclinic of the Charité in Berlin, Meyer found 121 instances of chorea, or a proportion of 6.6 per cent.; 11 of these cases (nine per cent.) were at the same time rheumatic; 3 had, along with their rheumatism and chorea, an organic affection of the heart; while 13 (ten per cent.) had chorea and heart disease without the rheumatism.—*Berliner klin. Wochens.*

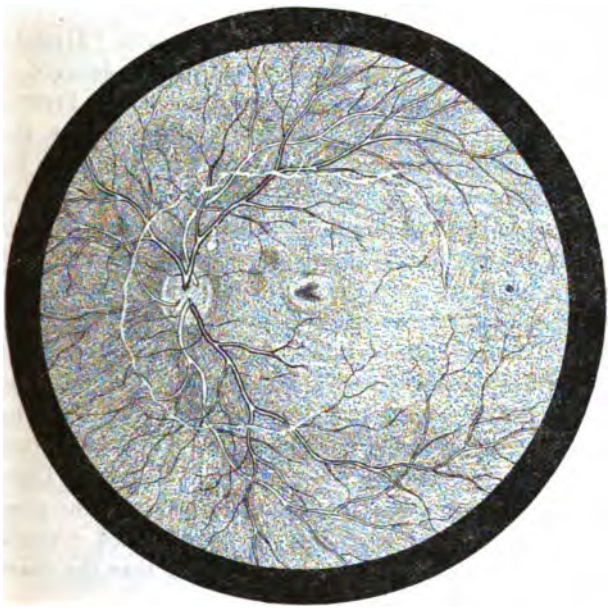
CURIOUS FORMATION IN THE VITREOUS HUMOR.

By JOHN HERBERT CLAIBORNE, Jr., M.D.,

CLARKE COUNTY, VA.

Katie C——, aged eighteen, presented herself at the Vanderbilt Clinic on account of specks in her left eye. Eighteen months before, after a morning's work at weaving in black goods, she noticed, while at her mid-day meal, a black speck on the sleeve of a friend who was sitting with her. See tried to pick it off, but, to her surprise, found nothing there. This frightened her friend, who thought she had lost her wits. Six months later another and smaller spot appeared. The large spot appeared to the right, the smaller to the left. Both moved with the eye, and each preserved its relative distance from the other.

The girl is anæmic and not over-robust. She says, however, her general health is good. Her parents are alive and healthy. Her mother has had eight children, two of whom died in infancy. The rest are alive and well. The vision in the eye affected is $\frac{20}{100}$; no improvement with glasses. The disk is white at the outer side. The blood-vessels are normal.



As shown by the cut, there is a patch of pigmentation at the macula. Around the edges of the patch there is slight evidence of atrophy of choroid. Farther out there is a very small pigmented spot, evidently of the same nature as the larger.

The most interesting appearance is the incomplete fillet in the vitreous humor that seems to embrace the disk and pass even beyond the region of the macula, stopping short of the second and smaller spot.

Just above the outer edge of the disk is a small, round opacity, from which a slender prolongation arises. Both the fillet and the globule change their relative positions with reference to the disk when the eye is rolled about. The disk was seen clearly with + 2.5 D. The fillet on the inner curve was seen most distinctly with + 5 D. and the small globule and prolongation with + 4 D. The fillet had the appearance of changing its place as it crept toward the macula.

The first explanation that suggests itself for the fillet and globule is, of course, that these appearances are remnants of the hyaloid artery. Yet this is far from satisfactory, as will be seen from a moment's reflection. The fillet had a grayish pellucid look that suggested connective tissue, and the globule suggested the appearance of an air-bubble by the brightness of its edge. It seems reasonable to suppose that both were due to the same cause. After the condition of her eye was explained to the patient she said she could see the fillet.

The interest and value of this report is vastly enhanced by the excellent drawing, for which I am indebted to Dr. Ward A. Holden.

Progress of Medical Science.

Borate of Soda in Epilepsy.—Dr. Mairet finds that, compared with the bromide of potassium, the borate of soda is of real value in the treatment of epilepsy. The attacks decrease under its use, and may be suppressed even for many months at a time. It acts better than the bromide of potash in symptomatic epilepsy. The bromide, on the contrary, gives better results than the borate of soda in nervous epilepsies, and in cases of this order it is only when the bromide has failed that borax should be tried.—*Le Progrès Médical.*

Microbes of the Dead Sea.—For a long time there was doubt as to whether any organism, animal or vegetable, lived in the Dead Sea. Now the question is solved by a patient Frenchman, Dr. Lortet, who finds at last, in water from the Dead Sea, specific microbes of gangrene and tetanus. Inoculated rabbits promptly expire, which proves that the classic Lacus Asphalites is more alive than was formerly supposed.

Treatment of Ringworm.—Dr. Goldsmith writes to the *British Medical Journal* that, when all other remedies had failed to effect a cure in three cases of ringworm of the scalp, in his own family, he tried Dr. Illingworth's method with prompt success. The formula for this strong blistering fluid, one application of which its originator claims will cure an ordinary case, is as follows:

℞. Hydrarg. biniodid..... ʒ ss.
Sal. sodii iodidi (1 in 4)..... ʒ ss.

A small portion of this is to be diluted with three parts of water, at the time of application. It is to be painted on with a camel's-hair pencil.

Hydrastis Canadensis is said to exert a very marked effect upon night-sweats, at the same time that it has a controlling influence over pulmonary hemorrhage, in phthisis. Thirty drops of the fluid extract are recommended by Cruse to be given at evening.

Septic Infection from the Umbilicus.—Dr. Eröas (*Wiener Med. Wochens.*, No. 41) says that septic infection associated with the detachment of the cord is a frequent source of fever in the new-born, and has a marked effect on infant mortality. He has studied the question in connection with one thousand births at the Buda-Pesth Obstetric Clinic, finding fever present in 450 instances, 220 of which were associated with some pathological condition at the navel. Death occurred in 8 cases. Gangrene of the cord was found in 81 instances; sloughing and protruding stump, each 55; omphalitis, 24, etc. Thorough antisepsis is recommended.

Methylene Blue in Neuralgia and Malaria.—According to the *Berliner klin. Wochens.*, No. 39, Drs. Guttman and Ehrlich have found a decided effect from methylene blue in malaria. Ten centigrammes of the chemically pure drug are given in capsule five times daily. Dr. Immerwahr states, in the *Deutsche Med. Wochens.*, October 8, 1891, that under certain circumstances this same drug, given three times daily in dose of from two to five grains, gives relief in neuralgia, muscular rheumatism, and the nerve-pain of herpes zoster, but not in sciatica. Further trial in both neuralgias and malarious fevers must be made before the true value of the drug is known.

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MYOPIA AMONG SCHOOL-CHILDREN.

THE hygiene of the eye is of particular interest to everyone, especially to parents and the guardians of children. However badly spoiled adults may be physically, there is seldom a soul so dead as not to rejoice in the perfections of childhood, and whatever will secure for it immunity from future disaster. Some interesting facts concerning the modern eye and its care were elicited in a recent meeting of the French Ophthalmological Society. Abstracts of the discussion are to be found in *Mercredi médical*, December 9, 1891. According to Dr. Motais, who has examined five thousand school-children of different grades, and the families of three hundred young myopic patients, myopia is not a disease from the point of view of onset and origin. It is a normal development, an adaptation of the eye to new functions—in other words, to near vision. It is the outcome of city life and civilization. The human eye is hypermetropic to the degree of a half or one diopter. Emmetropia, which is given as the rule, is the first result of adapting the eye to the needs of civilized life. The emmetropic eye is a candidate for myopia, which appears between the ages of eleven and thirteen, and is gradually progressive. Myopia is hereditary in sixty-five per cent. of all cases. In eighty out of every hundred myopic persons, the condition of the eye is transmitted from the father to the daughter, and from the mother to the son, or from grandparents to grandchildren. Hereditary myopia is more sharply defined than the acquired form, it reaches a higher degree more rapidly, and complications more often accompany it. Acquired myopia has a tendency to become hereditary. As education is becoming more and more general, even among girls, Dr. Motais fears for the future, evidently forgetting the tendency of human nature to revert to original or primitive types. As prophylactic measures, good light and hours of study that are not too long are important, together with the overcoming of the tendency to spasm that often precedes the development of myopia. As near-sightedness progresses there is sometimes depression of the posterior pole of the eye, and sometimes destruction of the anterior segment. Extraction of the transparent crystalline lens is justly considered dangerous, though surgical interference is advocated by Dr. Galezowski when there is exaggerated curve of the cornea. In twelve instances he has removed a semi-elliptical portion of the cornea near the centre, following the method adopted by him for staphyloma. In every case the operation has been followed, without accident, by diminution of the myopia from two to five diopters.

The influence of race on near-sightedness presents some points of interest. The children of German emigrants present a slighter degree of myopia than the children of other races in America, far less than German children of the same age born in Germany. In foggy regions there is more myopia than where the atmosphere is clear. The hygiene of the eye, according to Dr. Nimier, is indispensable, yet too much is not to be expected from preventive measures. The etiology of myopia is complex. Near work, heredity, growth, are all factors. Yet this condition is sometimes due to congenital malformation of the eye. At the hospital of Val-de-Grâce there is a record of forty-nine cases of aniso-metropic myopia, sufficient to establish the existence of this abnormity.

HYSTERIA IN THE NURSERY.

THE Paris correspondent of *The Lancet*, December 12, 1891, states that Dr. Chaumier, of Tours, recently read a paper before the Académie de Médecine on "Hysteria in Infants." Notes of two hundred cases, observed in children under two years of age, led the worthy Frenchman to believe that what ignorant mothers, nurses, and doctors have considered convulsions, "tantrums," or fits of bad temper, are in reality more or less severe attacks of hysteria. According to Dr. Chaumier, the symptoms of the mildest attack of infantile hysteria are repeated, and causeless accesses of rage manifested by loud cries. More serious attacks may be recognized by a stiffening of the limbs, with turgidity of the face, and possibly tremblings. Some hysterical babies will roll on the floor, or the bed, executing extensive movements of the arms or legs, without losing consciousness. Others lose consciousness, and the body is either rigid or limp. There are also *grandes attaques* even among babies. The prognosis is good, and what may be denominated "cradle hysteria" is more amenable to treatment than the drawing-room variety.

REST AND TRAVEL AS THERAPEUTIC AGENTS.

THERE are some good points made in *The Lancet*, December 12, 1891, in regard to the medical uses of rest and travel. Many of the toil-worn and worried need only to lie fallow for a time, and give tired nature a chance of recuperation and repair. To obtain conditions for rest of the right kind is often difficult, for there must be change and variety, and yet travelling is not always restful. Perhaps the ideal rest is a sea-voyage, far from the madding crowd, with its pure and invigorating atmosphere, its constant passive motion without fatigue, its change of scene and novel conditions of life, its freedom from care, worry, and excitement. There is, of course, the possibility of sea-sickness and bad weather, the separation from home and friends, and some slight risks. But these are not insurmountable obstacles. The rest and health seeker must avoid one snare, and that is imprudence on landing. To resume prematurely habits of activity after the luxurious rest of a sea-voyage is the height of folly. Rest on land must follow that upon the water,

and all efforts be gradually and systematically resumed. For an ideal combination of rest and travel, *The Lancet* suggests the voyage from Cairo to the Nile cataracts, in a Nile steamer. The climate is perfect, and the region abounds in interest. The season is from November to March, and continuous sunshine may be counted upon as soon as Luxor is reached. The nights are sometimes very cold, which is the only drawback to this adorable climate. Travel and rest may also be combined on the Algerian verge of the Sahara. Various oases—as Biskra, perhaps the best known—are accessible by rail from the seaports of Algeria, regions of sunshine, absolute calm, and remoteness from the stress and strife of civilization. And there are mountains in Africa that are a perfect delight to the weary of brain and tired of heart. The choice of locality depends upon the balance of symptoms and the insight of the physician.

GRIP AND THE COUNTY SOCIETY.

Before the Medical Society of the County of New York epidemic influenza was again recently considered. Its diagnostic features were discussed by Dr. E. G. Janeway, who thought it somewhat difficult to distinguish absolutely the identity of isolated cases. In the presence of the epidemic, there was a too ready tendency to class ordinary indispositions under the head of epidemic influenza. Follicular tonsillitis, ordinary lobar pneumonia, and meningitis were sometimes mistaken for grip, and the early symptoms of small-pox might trip up the unwary in diagnosis. To the belief that grip has certain marked characteristics which clearly distinguish it from all other diseases, Dr. R. W. Wilcox inclined, the first of these characteristics being the suddenness of the attack; the second, the multiplicity of the symptoms; the third, the variability of the symptoms; the fourth, an amount of depression out of all proportion to the physical disturbance; and the fifth, more tardy convalescence than in other diseases of the same severity.

Instead of complications of grip, Dr. W. H. Draper preferred the term complexities of grip. The disease being a general constitutional disorder, due to essential infection, expresses itself in a variety of forms traceable to a specific poison. Paresis and paralysis of ocular muscles, Dr. Pooley noted as some of the eye-troubles really due to epidemic influenza. Its aural manifestations, Dr. O. D. Pomeroy thought, presented nothing of marked characteristic interest beyond their intensity and a tendency to cell-proliferation. The nervous phenomena were considered by Dr. L. C. Gray, who included among them prostration—severe out of all proportion to the fever—spurious melancholia, sometimes mania, nona, and hallucinatory insanity. Dr. H. D. Chapin found grip less common and less severe among children than among adults, though the presence of the epidemic rendered existing respiratory troubles more serious. Measles was often mistaken for grip in children, though the latter disease was ushered in by vomiting, lasting several hours or a day, and only occasionally were eruptions among its manifestations.

The treatment of epidemic influenza was the division of the subject assigned to Dr. F. Delafield. There being no specific, any more than in other infectious diseases, rest in bed, good nursing, the relief of pain and distress, were naturally the chief factors in treatment, the frequent complications receiving attention as they presented themselves. For headaches and neuralgia, phenacetin in small and frequent doses gave the best results. To improve and sustain the circulation, digitalis, aconitine, veratrum viride, and strychnine, were well-known drugs that in combination were admirably suited to the arterio-cardiac exigencies of grip. Alcohol might also be needed. Pains in the throat were best relieved by aconite and salycilate of soda. Dr. Beverley Robinson spoke of the efficacy of local applications to the throat, even when local manifestations were not present, as tending to relieve peripheral irritation.

The rest of the discussion was postponed till the next meeting, on account of the lateness of the hour. That epidemic influenza continues to be a live subject is rather a good thing, for under the circumstances it is hardly possible for it to escape detection a second time, and the history of its reception here, three winters ago, has no excuse now for repeating itself.

A NEW THEORY OF INTERMITTENT FEVER.

The influence of fashion in medical theory and practice is so strong that most men, even while doubting the truth of a prevailing idea, hesitate to raise their voice against it, fearing either ridicule or contemptuous silence. It is, therefore, consequently refreshing to meet with an occasional courageous spirit who not only has views of his own that run counter to the dominant theories, but dares to express them in the face of the almost unanimous opposition of the medical world.

Dr. Matthew D. O'Connell, of the Indian Medical Staff, is one of these hardy souls, who has a theory about ague which he does not hesitate to express. Writing in the *Indian Medical Gazette* for November, 1891, he says that, while not disposed to question the influence of the presence in the blood of a micro-organism, animal or vegetable, in the production of remittent fever or pernicious malarial fevers, he thinks that another hypothesis is not only possible, but is fully adequate to explain the facts of ague and its consequences.

This hypothesis is that ague, or intermittent fever, is due to an intermittent excess of water in the blood, and that this intermittent excess of water in the blood, or hydræmia, is the obvious result of exposure to the meteorological surroundings (heat and moisture) which go to make up what we call a malarial climate.

The facts which have led him to the belief that intermittent fever is due to an intermittent hydræmia are as follows: 1. There is known to be excess of water in the blood in all fevers. 2. Excess of water in the blood, or hydræmia, will cause fever. 3. The meteorological conditions (heat and moisture) which make up what we call a malarial climate, are such as must, by preventing its excretion, produce an intermittent excess of water in the blood, or hydræmia. 4. Free elimination of water from the blood of a person suffering from ague reduces the temperature to normal. 5. Excess of water in the blood, especially if intermittent, will produce all the usual sequelæ of ague, viz., (*a*) enlargement of spleen, (*b*) leucocythæmia, (*c*) pigmental deposit in organs. 6. All successful treat-

ment of ague reduces the quantity of water in the blood. 7. Change of climate cures the disease.

We cannot say that all these alleged facts are actual facts, or, admitting them, that they prove Dr. O'Connell's theory. Still, as we said above, it is refreshing to find one who is bold enough to attack existing and generally accepted theories, and we believe such a man deserves to have his views made known.

THE COMMUNION AND PROHIBITION.

The pastor of a church in a Connecticut town announces that hereafter he will use no wine in the Communion Service, but will present the worshippers with a cup containing colored water only. He is an ardent Prohibitionist, and fears that some devout communicant may be led from the path of rectitude through a passion for drink, reawakened while partaking of the Sacrament. While it is not exactly within the province of a medical journal to discuss purely theological questions, yet we cannot but wonder at the apparent lack of faith in a Christian minister, who can believe that anybody could be plunged into sin by doing what his religion commands him to do; for it is evidently the duty of a professing Christian to obey the precepts of his Church.

But there is a medical side to the rite of Communion concerning which a word may be said. And that is the passing of the cup to a whole line of communicants for them to drink from, one after the other. There are certain diseases which are highly infectious, and which might readily be conveyed to the well by means of a cup moistened with the lips of others. We do not refer to syphilis only, although the danger of that must be apparent to all, for it is not every earnest Christian who has always been a Christian, or who has not at some time strayed from the narrow path; but there are other diseases the contagium of which may be spread in the same manner. In the Catholic Church this danger does not exist, and while desiring in no way to enter theological fields, we believe that the Protestant Churches might do well to consider, in these days of hygienic enlightenment, whether they acted wisely in departing from the ancient Catholic custom of giving the communion in one kind only. If colored water may be substituted for wine, on teetotal grounds, why cannot the use of liquid of any kind be abandoned for hygienic reasons? The Connecticut pastor has by his innovation escaped but one of the dangers, and that one the lesser of the two.

THE AMBULANCE SURGEON.

The other day a sailor from one of the vessels in the harbor went off on shore leave, and of course got drunk. On his return to the ship he fell down a hatchway and was picked up insensible. An ambulance was sent for, but the surgeon said it was only a case of alcoholism, and would not take it. The man was left in the police station, and as he did not improve the ambulance was sent for again, and then a third time; but the surgeon, with his wide experience, continued to diagnose the case as a simple "drunk," and would have nothing to do with it. Finally another ambulance was called and the man was taken to another hospital, where he promptly died from a fracture of the skull.

This is not the first time that an ambulance surgeon has made it evident that he has yet something to learn. We know these gentlemen are fresh from college and have all the wisdom and infallibility of youth, yet they should remember that modesty is a virtue that becomes even the wisest of men, and that, incomprehensible as it may seem to them, all creatures, even uniformed ambulance surgeons, for whose chariot the proudest truck-driver must make room, are prone to err.

The ambulance system exists for the purpose of extending relief to the sick and the injured, and the ambulance surgeon who refuses such aid is unfit for the responsible position he fills—or rather, occupies. There are, of course, cases where it is difficult, if not impossible, to diagnose the condition off-hand, but it is far better to take an occasional "drunk" to the hospital than to leave a man who is seriously injured uncared for in the police station. When the fact that the case is something more than alcoholism is apparent even to the police, who are not celebrated for their diagnostic skill, it is inexcusable in a surgeon to neglect it. Bumptiousness is not one of the qualifications that commend a public servant to public favor, and it is decidedly out of place in a hospital interne or ambulance doctor.

News of the Week.

The Influenza Bacillus.—As we go to press we receive from Dr. R. Pfeiffer, of Berlin, a preliminary report of his discovery of the influenza bacillus. He says: "In every case of influenza the bacillus is found. Control experiments demonstrate that the bacillus is absent in ordinary bronchial catarrh, pneumonia, and phthisis. The bacillus disappears with the disappearance of the disease. The bacillus itself is a very small rod about the thickness of the mouse septicæmia bacillus, and but half its length. Very often three or four are found arranged in chains. With basic aniline color they are difficult to stain, but are easily stained with diluted Ziehl's solution or with hot Löeffler's methylene blue. I have succeeded in growing two generations of the bacillus on dextrose-agar (one and one-half per cent.). The animals inoculated were rabbits, guinea-pigs, rats, mice, pigeons, and monkeys. The latter and rabbits only gave positive results. The infection is probably caused from the bacilli in the secretions of the naso-bronchial tract, and the prophylactic method would be to destroy the bacillus by neutralizing these secretions. Dr. Kitasato has been able to generate the fifth generation on glycerine-agar."

This is the first authoritative statement made in regard to Pfeiffer's discovery.

To Prevent Tuberculosis.—A rigid quarantine has been established by New Hampshire to prevent a spread of tuberculosis from Massachusetts. Last year, according to a report just issued, one hundred and eleven subjects of tuberculous disease in New Hampshire were condemned and killed. Investigation has shown that the disease was brought in from Massachusetts, and notice has been given that all cattle coming from that State must in future submit to quarantine regulations. The subject of tubercle referred to as having been put to death were cows.

Self-help.—The *Doctor's Weekly* is honest enough to have a column headed "Cribbings." It has another called "Among Our Exchanges," and under the latter, in last week's issue, it places an abstract of Boeckel's article on treatment of abscess of the breast, taken bodily from the RECORD of January 2d and credited to the *Gazette Médicale de Strasbourg*. At the head of the editorial column of the *Weekly* stands the question "Will you aid us?" We should be pleased to do anything in our power. We always like to help the man who helps himself, but when an editor helps himself to our literary efforts, and has a "cribbing" department, he should use it.

A Strange Accident.—A correspondent of *The Lancet* writes in a recent issue that, as he was about to examine a patient's chest with a binaural stethoscope, one of the ivory ear-pieces fell off unobserved by him. He let the instrument go in the ear in the usual way, and, the spring being somewhat strong, the uncovered end pierced the membrana tympani.

Sir William Thomson has been made a peer by the Queen.

Mr. Berkeley Hill, Vice-President of the Royal College of Surgeons, has recently died in London.

Typhoid Fever is very prevalent in Athens. A railway tunnel is being constructed in the lower part of the city, and it has been necessary to interfere more or less with the main sewers. The epidemic is attributed to this cause.

A New Remedy for Rheumatism.—At a recent meeting of the Berlin Medical Society Dr. Paul Guttman, of the Moabit Hospital, recommended a new medicament called Salophen. It is a finely crystalline substance, easily soluble in ether and in alcohol, but not soluble in water. It consists of salicylic acid and acetyl-paramidophenol in almost equal parts. Six to eight grammes can be given daily without injury to the patient. In acute articular rheumatism it soon removes the pain and the swelling. Sometimes, however, it fails to produce these effects, and it does not protect against relapses. In chronic articular rheumatism also it may be tried with success. It has a slight antifebrile effect.—*The Lancet.*

M. Villemin was, at the last election of the Paris Academy of Medicine, chosen Vice-President of that body by an almost unanimous vote. According to the custom of the Academy, the Vice-President of one year is advanced to the Presidency the year following.

Cremation in France.—During the year 1890 there were over 150 persons cremated in Paris, as against about 50 the year before. The cost of the operation in France is very small, the total expenses only amounting altogether to 31 francs 60 centimes. Since October 1, 1891, in addition to the ordinary cremations, more than 4,614 bodies have been sent from the hospitals to be cremated.

Professor v. Bardeleben, of Berlin, celebrated his semi centennial of medical practice on December 15th. The Emperor conferred on him a patent of hereditary nobility in recognition of his services during the last illness of the Emperor Frederick.

Influenza at Berlin.—The epidemic of influenza in Berlin has been much severer in character this year than even those of the two preceding winters. The highest number of deaths per week, from this cause, registered in the winters of 1889–90 and 1890–91, was 30, while this winter the number has reached 80 per week.

Modified Tuberculin.—Several physicians in this city are conducting experiments with Koch's modified tuberculin. Thus far no results of an encouraging nature have been recorded. We would suggest the substitution of cod-liver oil as being more likely to benefit the patients.

Purifying Water by Electricity.—Experiments which have been made recently in Germany, to determine the value of electricity in purifying water, show that it has this effect in a measure. The amount of organic matter in the water was reduced, though not entirely removed.

An Opening for a Medical Man.—An esteemed contemporary announces with a sigh that there is not one man in Philadelphia who practises on rectal affections exclusively.

A National Medical Practice Law.—The *American Doctor* says that the present system of State examining boards is a nuisance, and thinks that there should be some national law to regulate the practice of medicine, so that a competent man may exercise his rights to practise in any State of the Union without being bothered by a little board in every State he may enter.

Heavy Damages in a Malpractice Suit.—Four thousand dollars was the amount to which the jury considered the patient damaged in a suit for malpractice recently brought against a well-known practitioner of Nashville. The suit, as we learn from the *Nashville Journal of Medicine and Surgery* for January, 1892, was based upon the following circumstances: A child had sustained a simple fracture of the humerus close to the elbow-joint, to which the doctor was called. The fracture was reduced and the limb put up in a plaster-of-Paris bandage. Considerable pain ensued, but the bandage was not removed until the following day, when another physician was called in to the case. On removal of the dressing, the entire arm and hand were found in a bad condition, presenting signs of impending mortification. Active treatment saved the limb, but extensive sloughing and subsequent cicatricial contraction led to considerable deformity and impairment of function; hence, the suit.

Light as an Anæsthetic.—A Russian physician says that the electric light relieves pain in many cases almost instantaneously. For the cure of neuralgia he throws a beam from a bright arc light on to the painful area by means of a powerful reflector, or uses direct illumination by means of a condenser. In this way, it is claimed, the most intense pain, provided it be superficially located, may often be relieved at once without the use of anodynes.

The Columbian World's Congress of Pharmacists.—A comprehensive series of World's Congresses will be held at Chicago during the season of the World's Columbian Exposition of 1893. These Congresses will be of a dual character, some of their sessions being devoted to popular addresses of general interest, and others to the discussion of living questions such as the specialists who compose the several respective congresses may present. There will be, among others, a Columbian World's Con-

gress of Pharmacists. The World's Congress Auxiliary, through its committee, also invites the International Pharmaceutical Congress, the American Pharmaceutical Association, all of the State Pharmaceutical Associations and Boards of Pharmacy, and the Colleges and Schools of Pharmacy, to meet in Chicago at about the same time. The Seventh International Pharmaceutical Congress will probably be called to meet at the same time and place. There will be no conflict whatever between it and the Columbian Pharmaceutical Congress. Preliminary correspondence between the American Pharmaceutical Association and the representatives of the Sixth International Pharmaceutical Congress has been going on for some time, and it is hoped that the Special Committee of the Association will be enabled at an early day to enter actively upon its duties to arrange the preliminaries in co operation with the World's Congress Auxiliary of the World's Columbian Exposition.

The Surgical Aspects of a London Fog.—During the week ending December 26th, which was characterized by a very heavy fog, the accident cases received at one of the London hospitals consisted of 51 fractures, 6 dislocations, 24 sprains, 4 concussions, 13 contusions, 50 lacerated scalp wounds, and 1 rupture of the globe of the eye. The minor casualties treated consisted of: Sprains or contusions of the shoulder, 23; of the elbow, 13; of the wrist, 23; of the fingers, 12; of the hip, 9; of the knee, 10; of the ankle, 24; of the toes, 6; of the back, 18; of the side, 23; of the jaw, 2; 8 lacerations of the finger, 4 of the face, 8 of the scalp, 5 of the forehead. In twenty-four hours—December 25th and 26th—11 cases were seen of fractured radius either with or without fracture of the ulna.

Tuberculin in London.—Between December 6, 1890, and April 5, 1891, twenty-eight cases of phthisis were treated by means of tuberculin at the Hospital for Consumption and Diseases of the Chest in London. In the report recently made by Drs. Williams and Tatham upon these experiments, it is stated that "the tuberculin did not favorably influence the course of the disease in the majority of cases; that in some the effects were detrimental; and that even in the stationary and improved cases it was difficult to ascribe any distinct improvement to the injections, which might not have been equally attained under the treatment ordinarily employed in the hospital." Two cases of lupus treated by tuberculin "showed marked temporary improvement, followed by a return toward, if not actually to, the condition preceding the commencement of the treatment, when the injections were stopped; and even before stopping the injections, the retrogression had already set in."

A Curious Coincidence.—Dr. E. Schech, of Munich, while performing recently a difficult and tedious operation on the larynx, was himself suddenly seized with spasm of the glottis. This was followed by tetanoid convulsions, and for a time it was feared that he could not recover, but fortunately these fears were not realized.

The Marine Hospital Service.—Dr. W. W. Wyman has been nominated by the President supervising surgeon-general, a position that he has filled for a number of months under a temporary appointment during the recess of Congress.

The Journal de Médecine de Bruxelles, the official organ of the Royal Society of Medical and Natural Sciences of Brussels, has completed its first half-century of existence. It will appear henceforth as a weekly instead of a semi-monthly publication.

Dr. St. John's Dinner to the Bergen County (N. J.) Society.—Dr. David St. John, of Hackensack, N. J., the founder of the Hackensack Hospital, gave a dinner at the Hackensack House, Wednesday evening, January 27th, to the Consulting Staff of the Hospital, and to the Bergen County Medical Society. Seventy-five guests were present. Dr. Neer, President of the Bergen County Society, presided. Dr. J. Leonard Corning, of New York, was toast-master, Dr. H. C. Neer spoke on behalf of the Society, and Mr. Johnson for the Hospital. These were followed by general responses from the New York guests, Drs. David Webster, George F. Shrady, Reginald Sayre, R. Newman, W. Gill Wylie; and by Senator Winton, of New Jersey, Mr. Dickinson, of Jersey City, and the Rev. Mr. Johnson, of Hackensack.

Obituary.

SAMUEL H. CASE, M.D.,

ONEONTA, N. Y.

SAMUEL H. CASE, M.D., died on Monday, the 18th inst., at the age of eighty-three years. He was born in Franklin, N. Y., December 14, 1808. His parents were among the earliest settlers of the town of Franklin, having settled there from Connecticut in 1792. The Case family came of sturdy English stock and emigrated to America about the year 1630, settling in the town of Colchester, Conn. The father of Dr. Case was one of a family of eight sons who settled in Franklin at the date above given, driving their cattle and sheep before them into the wilderness. Eight days were consumed in the march from the Hudson River.

Dr. Case's early education was begun in the primitive school of the neighborhood, and afterward continued at the old Delaware Academy at Delhi, N. Y. He began the study of medicine with his brother-in-law, the late Dr. Almiron Fitch, of Delhi, and subsequently completed his course at the medical college at Fairfield, Herkimer County, from which institution he was graduated February 3, 1829.

He was the second regular physician to begin his professional work in Oneonta, Dr. Joseph Lindsay, his senior in years, having settled here in 1807. The old doctor and the young doctor worked harmoniously together in the little hamlet and throughout the wide district that extended from one clearing to another for many miles.

No physician in the State was more faithful in his professional duties, more faithful to the public, than was Dr. Case. His ride extended over several towns of Otsego and Delaware Counties. There was no weather so inclement that he did not breast it, no ride was too long for him, and no patient was neglected because he was poor.

Dr. Case was married in 1834 to Emilia A. Meigs, a daughter of Edmund Meigs, a prosperous business man of the town. By this marriage he had two children. The doctor was many years town superintendent of schools, supervisor, railroad commissioner, pension examiner, and in whatever capacity he acted he was faithful to the trust reposed in him. The rare combination of qualities that made Dr. Case the model husband and father, the good physician, the patriotic and public-spirited citizen, will long be held in affectionate and grateful recollection.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 17, 1891.

D. B St John Roosa, M.D., Vice-President, in the Chair.

Streptococcus Osteomyelitis.—Dr. Henry Koplik presented the first paper on this subject. Later Dr. Van Arsdale read one on "The Surgical Considerations of Streptococcus Osteomyelitis," after which a general discussion took place.

Dr. Koplik's experiments had been carried out at the Carnegie Laboratory. In his opening remarks he showed that the terms septicæmia and pyæmia had been largely used interchangeably, and that only rather indefinite attempts had been made to analyze the different forms of infection according to the micro organism producing them; that at the Pasteur Institute alone had the influence of the streptococcus in the production of certain cases of osteomyelitis been pointed out. The special object of his paper was to show a form of osteomyelitis which was due to a different kind of micro organism from that which had engaged attention during the earlier studies of the subject. While formerly the staphylococcus was looked upon as generally the cause of osteomyelitis, later any pus-producing microbe was thought to be able to cause an acute attack of this affection. Having referred briefly to the experiments of Lanalongue in producing an osteomyelitis in animals by injections of the streptococcus, the author related the history of some cases which had come under his observation, and from which he was enabled to make cultures of the streptococcus and experiment on rabbits, etc. The streptococcus osteomyelitis under consideration sometimes followed one of the acute exanthematous diseases, diphtheria, inflammation of the umbilicus, etc., the germ gaining entrance to the circulation through an abrasion of the skin or mucous membrane in a patient already reduced in health. In one of his five or more cases the pain and swelling of the limb followed a suppurative condition at the umbilicus in a child some weeks old. The swelling and suppuration first affected the knee, then the hip, and then other joints, and the child died. The second case was one of streptococcus invasion following scarlet fever, which produced multiple joint inflammation, with suppuration and death from exhaustion. The next case occurred in a child, aged ten months, which had had fever and cough; later, when first seen, there was a bronchopneumonia, swelling of the wrist, and elbow-joints developed, which extended to other joints. From them yellowish pus was withdrawn. The fifth case was also one of multiple joint affections, which went on to exhaustion.

The experiments were carried out by withdrawing some of the pus. The streptococcus was found, cultures were made, and with the pure culture local inoculations were made, or the germs were injected into the general circulation. In the case of rabbits, death took place only after injections into the circulation. The affected joints following the experiments contained no other microbe than the streptococcus. The spleen was also enlarged, and the blood, spleen, and sometimes other organs, as well as the joints, showed pure streptococci. There was no necrosis of bone, no periosteal or subperiosteal swelling. The medulla of the bones making up the inflamed joints was invaded with streptococci; they were also seen in the Haversian canals.

He said these experiments were made before he had become acquainted with the work of the French school, and they led to the conviction that there was a form of acute osteomyelitis secondary to invasion of the system by an organism identical with the streptococcus pyogenes. All the cases belonged to the class which had been termed septo-pyæmic.

Dr. Koplik's views of the treatment were in harmony with those of Dr. Van Arsdale. The same cause did not always produce a type of disease of the same severity, the difference being due, at least in part, to the general systemic condition. He approved of an attempt to shut off the invaded bone from the rest of the skeleton with a view to remove or limit the infection. Diagrams of the streptococcus in pure culture, in matter withdrawn from a joint, and in the Haversian canals, were exhibited.

Dr. William W. Van Arsdale then presented his communication on the surgical features of streptococcus osteomyelitis. He would not have been encouraged to do this had not a case treated according to ideas based on the recent view of the etiology of the affection recovered. It was the third case in the list reported, and occurred in a girl, ten months of age, who when first seen had pneumonia, then there developed a fluctuating swelling of the wrist which extended up the forearm; the elbow-joint also became swollen. He incised and drained the wrist-joint, treated it antiseptically, and put on a splint. Two days later disorganization of the lower forearm seemed to have increased in extent and gave indication for further treatment, but owing to the presence of the pneumonia operative procedure was postponed for fourteen days; then there being evidence of pus in the elbow-joint he operated for that, found necrosis in the epiphysis; the bone proved necrotic in its entire extent and was removed *in toto*. The periosteal covering had been so changed as to be unrecognizable, due probably to the delay in the operation and extension of the inflammatory process. The condition of the patient being one of extreme prostration, a bad prognosis was given, yet she recovered, but disappeared from view, so that further management could not be carried out. He thought this was better than amputation, and less severe, and for that reason less dangerous.

The author put much stress on early recognition and interference. The experiments upon animals seemed to show the presence of inflammation in the medulla before the development of disease in the joints, and to wait for erosion of cartilage to take place in the joints was to make unnecessary delay. If the diaphysis were taken out at an earlier period possibly extension of the disease to the joint might be avoided and function retained. Unfortunately the physician often saw the case late, or parents hesitated to grant permission to interfere. If bone failed to reproduce and it became desirable or necessary to amputate the limb subsequently, it could then be done with less danger than it could have been done while the patient's condition was so low. The streptococci could not be reached by simply washing out the medullary canal, for, as shown in the diagrams, they penetrated the Haversian canals also. Where there was evident implication of the internal organs one might hesitate, in view of the much more unfavorable prognosis, to attack the affected bones. Nevertheless, the removal of every focus from which renewed invasion of the system by germs and their toxic secretion was taking place should give the patient a better chance. Happily the streptococcus showed special preference for bones and joints, so that invasion of the organs might recede with radical measures directed to the first named seat of infection. The author distinguished between the form of osteomyelitis under consideration and the simple catarrhal form of Volkmann, which was much milder.

It would be observed that in streptococcus osteomyelitis the disease was due to a special germ which reached the interior of the system, and which might not cause any symptoms at the point of entrance, but it showed a selection of bones and joints as a place for development, so that the joint affections were likely to be multiple. The author thought more radical surgical measures should be adopted than heretofore; that the interference should not relate alone to the joint, but also to the bones going to make up the joint. An incision should be made along the shaft of the bone, and as much as might seem neces-

sary should be subperiosteally removed. If subsequent reproduction of bone did not take place, precaution should be taken against shortening, and secondary amputation might, if desirable, be made. Nor should the fact that the epiphyseal cartilage had become disintegrated interfere with the extraction of the foci of osteomyelitis; the cartilage should be treated in conjunction with treatment of the joint. If it was possible to save the epiphyseal line it might permit of reproduction of bone and joint function. As to the best and safest antiseptic in children, he recommended creoline.

Dr. F. S. Dennis related an interesting case in which the staphylococcus albus had caused an osteomyelitis affecting the tibia in a lad whom he presented and who had been brought to Bellevue Hospital from the Chambers Street Hospital under the supposition, he believed, that the symptoms were due to typhoid fever. This was excluded by Dr. Janeway. The boy entered Dr. Dennis's ward, and while the symptoms were much like those of typhoid fever, there was one which led him to explore the tibia. Over this bone was excruciating pain, and on cutting down upon the bone nothing abnormal was found until it was trephined, when pus welled up from the interior. He gouged out the medullary canal, thoroughly cleansed it, and the boy had practically recovered. The pus contained only the staphylococcus pyogenes albus, whereas the rule was to find in osteomyelitis and joint affections the staphylococcus pyogenes aureus.

Dr. A. G. Gerster said he had been much instructed by the papers, that he was glad to learn of the distinctions between the several cases of osteomyelitis according as they were caused by the staphylococcus albus, aureus, the streptococcus, etc., and with the light thrown upon one of these forms by the authors, he would feel bolder in treating them according to principles of advanced surgery.

Dr Gibney related his experience with cases of what clinically seemed to have been streptococcus osteomyelitis, in one of which he was surprised, owing to the low condition of the patient, to find that she recovered after several operations on the long bones.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 16, 1891.

Egbert H. Grandin, M.D., Chairman.

Ovary Containing a Bone.—Dr. H. C. Coe presented a small bone which he had found in an abscess of an ovary removed from a woman who had suffered a number of years from extreme local pain. He was unable to say whether the specimen was in a commencing dermoid or whether it had been present a long period.

Angioma of the Liver.—Dr. H. T. Hanks related a case of what had been supposed to be a cancerous growth from the liver, but puncture with the needle withdrew thin venous blood. Exploratory laparotomy was then performed, and the tumor was found to be situated on the lower lobe of the liver, of large size, extending across the median line a considerable distance, and on being punctured thin venous blood came forth freely. The line of demarcation between the healthy and diseased tissue was pronounced. The abdomen was again closed, and further treatment consisted in the use of galvanism, one large sponge electrode being pressed well up under the ribs against the lower surface of the tumor. On one occasion galvano puncture was resorted to, but was not repeated for the reason that the tumor had already diminished about two thirds in size, and the patient had become able to do her housework without inconvenience. He added that a case was reported once by a member of the New York Obstetrical Society in which the diagnosis of angioma of the liver was made and the patient completely recovered.

Intra ligamentous Rupture of Ectopic Gestation, and Its Expectant Treatment.—Dr. George W. Jarman read a paper with this title. He believed with Tait that where rupture had occurred into the broad ligament, being extra-peritoneal, it was highly improbable that secondary rupture and hemorrhage would take place into the peritoneal cavity. Tait had never seen a case of secondary rupture into the peritoneal cavity. This being true, the author saw no necessity for exposing the patient to the dangers of laparotomy after intra-ligamentous rupture. Expectant treatment was advised. Should any accident or symptoms arise, one could hold himself in readiness to interfere with the knife. He had met with two cases in which the symptoms and physical signs were those of intra-ligamentous rupture, this diagnosis being further confirmed by the patients not having for a long period, or never, borne children; the existence of uterine trouble, then the occurrence of menstrual and other changes pointing to pregnancy, and finally by the occurrence of sudden pain and fainting. The treatment was entirely expectant, the patients being placed in the recumbent posture and compelled to maintain it for a sufficiently long period. Both of them had made a satisfactory recovery, and gradually the tumor had nearly or quite disappeared. As to the source of the hemorrhage, he thought it came more from the open sinuses than from the arteries and veins.

Dr. Coe had often wondered why so many authors had been silent as to the source of the hemorrhage. It did not seem probable that it could all come from ruptured tubal arteries and veins. He had never been able to convince himself in any case that secondary rupture had taken place into the peritoneum. He had seen one in which the escape of blood was very great, amounting to at least three pints, being extra-peritoneal and dissecting up along the spine. He did not see why there should be any special danger where early rupture had take place in the broad ligament.

Dr. Hanks thought there was no danger from secondary rupture into the peritoneal cavity in intra-ligamentous rupture, yet we could not be quite sure, he said, that after treatment by the expectant plan, or by electricity, there would not be need for further attention. For instance, one patient had had to come a second time from Texas, where he removed a hæmatoma from the site of the former rupture in ectopic pregnancy.

Dr. Cregan said a patient had been received into a hospital where he was interne who gave a history of ectopic pregnancy; rupture just before she entered; tumor felt distinctly on the left side per vaginam. She was kept quiet; virtually nothing was done; at the end of three weeks she was fully convalescent. Some time afterward she was operated upon for rupture of a pyosalpinx on the opposite or right side, and examination of the left tube then showed some thickening of the broad ligament and a scar, which seemed to confirm the previous diagnosis of tubal pregnancy and rupture on that side.

Dr. Locke presented a volume of "The Philosophical Transactions," which contained a very good illustration of a case of ruptured tubal pregnancy which had occurred in 1817.

The Chairman was prepared to admit that cases heretofore reported as representing secondary rupture into the peritoneum after rupture in the broad ligament were cases in which there had been an error in diagnosis. The blood would dissect up the membrane, travelling in the direction of least resistance, before it would cause secondary rupture through the broad ligament into the cavity.

Suppurative Oöphoritis.—Dr. H. J. Boldt read a paper on chronic suppurative ovaritis, the principal part of which was devoted to a description of the minute pathological changes. He differed from those who held with Cohnheim that the inflammation and suppuration were based on an emigration of colorless blood corpuscles. Briefly stated, it was the author's conviction that all the constituent tissues of the ovary, including the fibrous, epithelial, myxomatous, and vascular structures, participated in an active manner in the production of inflammatory corpuscles which, when broken asunder, furnished

the pus-corpuscles. The paper was illustrated by drawings of the inflammatory changes as they had taken place in the different structures in the several cases which had come under his observation.

Passing to the clinical considerations, he said true ovarian abscess of non-puerperal origin was very rare, though not so rare as some authors seemed to believe. Most published cases had been connected with the puerperium, were tubo-ovarian abscess or ovarian cystomata, and therefore not true ovarian abscess. It was evident from what he had stated regarding the pathological anatomy, that a true ovarian abscess could not attain a great size, seldom larger than an English walnut, and very seldom, indeed, larger than a hen's egg. A microscopical examination was necessary to a positive diagnosis.

The prominent symptoms of chronic ovarian abscess were pain in the region of the ovary, which might radiate to the hypogastric or sacral regions. It was dull, sometimes sharp and lancinating, and differing from that connected with salpingitis in that it was not modified by menstruation. Reflex nervous symptoms, such as headache, etc., might be present. Physical examination revealed a condition resembling oöphoritis, peri-oöphoritis, and peri-metritis, from which it could not be positively differentiated. This chronic suppurative ovaritis, as the author would have it called, might extend over a long period. When an acute process became engrafted upon the chronic, the patient had slight chills at irregular intervals, the pain was more severe, and limited more strictly to the ovary, the ovary increased in size, fluctuation was more or less prominent, the temperature and pulse were enhanced.

Regarding treatment, this was often continued a long time locally, while hesitating about a positive diagnosis. Where the symptoms already mentioned continued, although perhaps slightly modified by treatment, the abdomen should be opened, and if suppurative ovaries were found they should be removed. If the abscess walls were thin, or the adhesions were such as to endanger rupture during enucleation, it should first be aspirated. If it were adherent to the floor of the pelvis, it should be opened per vaginam, drained, and treated like other pelvic abscesses. This could be done without danger after the abdomen had once been opened.

If some of the virulent pus entered the abdominal cavity it rendered the prognosis grave, otherwise it was favorable.

Some of the points made in the discussion, which was participated in by Drs. Edebohls, Coe, Jarman, Hanks, Goelet, Waldo, Buckmaster, and the Chairman, were the possible origin of ovarian abscess in the gonococcus or other germs which reached the ovary not by way of the tube, but through the lymphatics, from the intestines, etc. It was generally conceded that true ovarian abscess, as it had been described in the paper, was of small size, situated well up, and unless unusually located through adhesions, could not be treated through the vagina.

Intubation and Tracheotomy.—In a report of these operations done at the Boston City Hospital, Drs. Prescott and Goldthwaite (*Boston Medical and Surgical Journal*, No. 27, 1891) draw the following conclusions: Three hundred and ninety-two cases of intubation, and 139 cases of tracheotomy have been reported, with a mortality-rate of 79.59 per cent. in the former, and 88.5 per cent. in the latter; 2,815 cases of intubation, and 23,941 cases of tracheotomy have been collected and analyzed, showing comparatively no difference in the mortality-rate of the two operations. The results depend more upon the nature of the epidemic than upon the operation. With intubation the results depend more upon the skill and experience of the operator than with tracheotomy. Thirty-seven cases were seen at least a year and a half after recovery from intubation, with perfect voice, and with nothing that would indicate any ulceration from pressure of the tube.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PATHOLOGICAL SOCIETY—DISCUSSION ON THE MORBID CHANGES FOUND IN THE MAMMA IN ASSOCIATION WITH CANCER—INFLUENZA AGAIN ACTIVE—DEATH OF MR. BERKELEY HILL—THE COLLEGE OF PHYSICIANS AND ITS LICENSE.

LONDON, January 9, 1892.

THE first meeting of the Pathological Society for the present year took place on Tuesday evening last. Mr. Charles Morton presented a specimen of tuberculous ulcer of the tongue with sections, showing bacilli. Dr. Rolleston showed one of sarcoma of the duodenum. The interest of the evening, however, centred on the pathology of mammary carcinoma, on which subject two papers were read. The first of these was by Mr. Raymond Johnson, and gave an account of an investigation which the author had made, as to the pathological conditions in the breast found in association with carcinoma. Mr. Johnson had endeavored to ascertain whether pathological evidence could be obtained, indicating the propriety of the complete removal of the organ in cases of carcinoma. He had examined the condition of the mammary tissue in numerous cases, both by the naked eye and by the microscope. Small cysts in the breast-tissue were not uncommon, but he found no evidence that their relation was more than accidental; he suggested that such cysts might arise as the result of the blocking of the ducts by the growth of the tumor. In many cases the microscope showed morbid changes when examination with the naked eye gave no evidence of disease. Thus, in one case, it was found that there was invasion of remote parts of the breast through the lymphatic spaces, as in the infiltrating variety of the disease. It was more common to find proliferative changes in the epithelium of the acini; the latter were somewhat dilated, and more or less blocked by masses of swollen, faintly-staining cells which often had indistinct outlines. These changes were well seen in a small indurated area excised by Mr. Godlee from the centre of the breast of a woman forty years of age. The condition was probably one of chronic inflammation, and there were no signs of tumor formation. Mr. Johnson also showed specimens showing these changes in breasts the seat of carcinoma, and a specimen from the breast of a lady, whose opposite breast had been removed for carcinoma by Mr. Berkeley Hill, several years previously. Mr. Johnson suggested that these proliferative epithelial changes probably stood in the same relation to cancer of the breast as chronic superficial glossitis did to cancer of the tongue, viz., that they constituted a precancerous condition. He summarized as follows the conditions found in the breast in association with carcinoma: gland tissue apparently healthy, gland tissue atrophied and with a large admixture of fat and fibrous tissue, chronic proliferative epithelial changes, infection of the gland through the lymphatics, cystic changes, and lastly, the presence of simple tumors. The author thought his observations pointed to the conclusion that, so far as possible, all the gland-tissue should be removed in excising a cancer of the breast, specimens were exhibited showing fragments of breast-tissue left behind in the usual operation of excision, and others showing that such fragments might, in some cases at least, be the starting point of recurrent growths.

Mr. Cecil Beadles then read a paper in which he gave an account of the histological changes in the breast found in association with glandular carcinoma, based on an examination of about one hundred breasts which had been removed for carcinoma. Such breasts he said, were never in what might be called a normal state, but it was doubtful to what extent the conditions found were dependent on the presence of cancer. Mr. Beadles referred to the frequency with which small carcinomatous nodules might be found at a distance from the larger growth, and hav-

ing no connection with it, and passing on to the consideration of the changes found in the stroma of the breast lobules, said that there might be seen in different cases all the stages of what was usually described as "chronic interstitial mastitis," viz., small round-celled infiltration, a stroma formed of young connective-tissue cells, and one of a dense fibrous tissue—the latter either associated with atrophy of the gland acini, or with the formation of cysts. There was often also a marked proliferation of the epithelium within the acini, with perhaps degeneration of the central cells. The author also described a peculiar change found in the gland acini of some breasts affected with malignant disease, consisting in the increase, combined with great irregularity in size, of the epithelial cells—some being very large and indistinguishable from malignant cells, and often associated with degeneration of other cells. This condition might be looked upon as a stage between simple adenoma and glandular carcinoma—in fact, as commencing malignant disease. A papilliform change sometimes found in the epithelium of the ducts was next described; this presented itself in two forms, and the process of degeneration could be traced in adjoining spaces of both the stroma and the epithelium. In concluding his paper, Mr. Beadles said he believed that the changes which he had described in the gland acini were independent of the primary growth, and were probably produced by the same cause as the latter. In his experience, the direct infection of the breast through the lymphatics was extremely rare, except in the immediate neighborhood of the growth. These changes in the epithelium might account for recurrence of the disease in some cases, so that very great care should be exercised in the removal of all traces of the mammary gland.

The President (Sir George Humphry) said it was usual to find cancer localized in one spot, yet its return in a distant part was common. This fact suggested that in many cases disease might be lurking in a distant part of the gland, though it was not to be detected by any ordinary method of examination. He had often noticed that after the removal of a breast for cancer there would happen a recurrence in tissue which was not apparently mammary; this happened too frequently to be accounted for by the idea that in every case portions of breast tissue had been left behind. He remarked that Mr. Stiles, of Edinburgh, had found that much of the connective tissue between the breast and the axillary glands possessed a glandular structure which might of itself be the site of recurrence. He agreed that mammary cysts had no particular relation to cancer. He remarked that the mammary glands were peculiar organs—they might remain functionless through life, they might be repeatedly functional for limited periods, or one organ might remain functionless while the other was used; he thought it would be worth inquiry as to which of these three conditions was the more frequent precursor of cancer.

Mr. Bowlby thought many of the changes described had nothing to do with cancer; he had found similar changes in many breasts taken from persons of middle age not affected with cancer, and he thought that, at the most, such changes would only predispose to cancer. A cancer growth often spread a considerable distance beyond its apparent limits, and the breast tissue in these subjects was so little in depth that a small cancer nodule would lie in relation with both the skin above and the pectoral fascia below. He asked the authors how far from the cancer nodules these changes were found. Their papers seemed to suggest that secondary growth—and at a part of the gland distant from the primary focus—was almost sure to follow, but he did not think this result was so very common. At St. Bartholomew's Hospital it was the practice of some of the surgeons to remove the growth only, and leave the gland if the growth were limited to the axillary border of the latter. Where this had been done, if recurrence followed, it was usually not in the breast at all but in the axillary glands.

Mr. Watson Cheyne said he had examined Mr. Stiles's specimens and agreed with his conclusions. He felt convinced that cancer spread by growth along the course of the lymphatics rather than by continuous growth along the ducts. The lymphatic plexuses in the mamma were so free that he did not feel justified in adopting partial amputation, even when the growth seemed to be limited to the axillary border. It was important always to remove the pectoral fascia, for lobules of the gland penetrated it and lymphatic vessels traversed it. He had examined a large number of small nodules of recurrent growth, and found that they were, in most cases, embedded in a bit of breast tissue which possessed healthy acini; this again pointed to lymphatic infection.

Mr. Raymond Johnson said he was at present engaged in examining a number of specimens of breasts of women between forty and forty-five, and, though he had found changes, these were not nearly so marked as in several of the carcinoma cases. Where he had referred to tissue examined from a part of the gland remote from growth he had meant that the specimen was taken from the opposite hemisphere of the gland at a distance of two or three inches from the primary growth. He had found the changes which he had described in many, but not in all, of the cases he had examined.

Influenza has become prevalent again over a great part of the kingdom, and has appeared in most parts of the metropolis. Thirty-seven deaths from the disorder were registered in London last week. Generally speaking, however, the disease appears to be of a milder type than in the previous epidemic. Doctors and nurses have, nevertheless, been in great request, and I was informed a day or two ago that no female nurses whatever could be obtained from the leading nursing institutions, owing to the number of patients requiring their services.

The death is announced of Mr. Berkeley Hill, Senior Surgeon to University College Hospital and Professor of Clinical Surgery in the College. Mr. Hill was also Surgeon to the Lock Hospital and had a considerable reputation as an authority on venereal diseases, on which subject he published several works. At the time of his death he was one of the two Vice-Presidents of the Royal College of Surgeons.

The Royal College of Physicians has obtained a legal opinion favorable to its claim that the License of the College is by itself an adequate qualification entitling the holder to register under the Medical Acts.

THE DOSE PARALDEHYDE.

To the Editor of the Medical Record.

Sir: In your issue of December 19, 1891, appears, under the heading "A Large Dose of Paraldehyde," a short article by J. Noer, M.D., of Stoughton, Wis., which I venture to criticise.

To be brief, the doctor states that he prescribed two and one-half drachms of paraldehyde for his patient, to be given in 15 minim doses "every half hour until sleep was produced." But his "reckless" patient took it all at one dose, and bromide of potassium was given as an antagonist. While admitting two and one-half drachms of paraldehyde to be a large dose, it is decidedly not an alarming dose, or one to produce alarming symptoms, and I think the doctor is in error when he ascribes the "delirious tendency and a little quickening of the pulse" to the paraldehyde. I also admit that in theory, as laid down in our text-books, one drachm of paraldehyde is the maximum dose, yet in practice I have seldom seen that dose produce sleep.

In a practical experience of nearly four years in the continuous use of paraldehyde, I have yet to meet with a case in which a dose of two and one-half drachms produced delirium or any untoward quickening of the pulse. Cervello says "paraldehyde affects the cerebrum, spinal cord, and the bulbus successively, abolishing the reflexes,

causing anæsthesia by anæmiating the brain and cord. It is eliminated by the lungs and is not a cardiac poison." Hare, in his "Practical Therapeutics," says "paraldehyde kills when taken in overdose by respiratory failure, but is not so depressant to the heart as is chloral," but he neglects to state a quantity which might be considered a poisonous dose.

I use paraldehyde continuously and almost exclusively, because in my opinion, based upon a study of its effects in several thousand administrations, it is the better and safer hypnotic. It certainly is not pleasant to take, and the odor can be detected in the breath for nearly twenty-four hours after admission, even from so small a dose as twenty minims, but it has no unpleasant nor depressing after-effect, and produces a more natural sleep than any other similar drug with which I am acquainted. Gastro-intestinal disorders contra indicate its use, and I should say its action on the heart is *nil*, even where there is organic lesions. I invariably exhibit two drachms of paraldehyde as an initial dose, and then increase to two and one-half drachms if necessary. I have given in special cases three and one-half drachms of this drug with no other than a quiet sleep-producing effect, but so large a dose I do not consider safe, and it must be used advisedly. I repeatedly give two drachms, followed in one to two hours by a similar dose should the first not be effective, and I believe it to be the consensus of opinion among those who have used paraldehyde and studied its effects that two drachms is the ordinary or proper dose.

I have seen but one case of paraldehyde habit—an old lady over seventy years of age, who, broken down physically and mentally and a victim of morphia, had paraldehyde substituted. I believe the danger of forming a paraldehyde habit is so small as to be hardly worthy of consideration.

In conclusion, I would refer Dr. Noer, should this meet his eye, to an article entitled "A Clinical Study of Paraldehyde and Sulphonal," by C. M. Hay, M.D., published in the *American Journal of the Medical Sciences* for July, 1889, which is an exhaustive essay on the relative merits of the two drugs, and may be read by any one with profit and pleasure. Certainly I must infer from Dr. Noer's article that his experience in the use of paraldehyde has been extremely limited.

Yours very truly,

ELIOT GORTON, M.D.,
Second Asst. Physician, State Asylum for the Insane.
MORRIS PLAINS, N. J.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was astonished to read in the MEDICAL RECORD of December 19th last the letter of J. Noer, M.D., on the above subject. My surprise was not so much from the strangeness of the case itself as from the limited knowledge one seems to have of the effects of this drug. For the past year I have been in the habit of nightly giving doses of paraldehyde of not less than four to ten grains in a dose, repeated after a couple of hours if the desired effect has not been obtained, and I have never met with any accident from its administration.

W. M——, a patient, arrived at our Retreat, in the beginning of August last, in a state of intoxication. He was much excited, and as I had known him for some time, I administered a dose of one ounce of paraldehyde in water, which I was obliged to repeat in an hour's time, the first dose having been perfectly useless in procuring sleep. Two hours later the patient was still awake, but having given two such large doses, I did not think fit to risk giving any more. At midnight, three hours after I had given the second dose, I found my patient sleeping tranquilly. At 7 the next morning he awoke, drank a little milk and lime-water, and again slept until 10.30 o'clock. He then awoke, and recalling his previous day's debauch, was in a very remorseful mood, and asked me for more paraldehyde, saying: "Let me sleep and forget." I refused, needless to remark; I did not consider it necessary to give any more.

To my great surprise the keeper in charge showed me a four-ounce vial found in the patient's room labelled "Paraldehyde." The druggist who had sold the drug to this patient told me some days later he had given four ounces on the same day he arrived at the Retreat. Therefore the man had taken six ounces of paraldehyde! And he had slept, with intervals of awakening, only about eleven hours.

This case I believe to be an exceptional one. But I am confident that more than four grammes can be given without any risk, and that very often this dose is an insufficient one.

P. V. FAUCHER, M.D.,
Resident Physician to Belmont Retreat, Quebec, Can.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 19, 1891, I reported a case where a man on the verge of delirium tremens took ten grm. (3 ijss.) of paraldehyde with no untoward symptoms. I regarded this as a very large dose. A medical gentleman has since written me that this is not an unusual dose, and quotes Bartholow as giving a dose at from 3 j. to 3 ijss. Dr. B. quotes Bartholow as follows: "To succeed it (paraldehyde) must be given in sufficient quantity, the maximum dose mentioned above (3 ijss.) has often been given without any after-trouble of any kind, and has often proved necessary."

This is certainly news to me, and if it be in accord with facts, is of importance, since paraldehyde is a new drug that has been comparatively little used.

James C. Wilson[1] says "paraldehyde in doses of half a drachm to one drachm repeated at intervals of two or three hours until sleep is induced."

H. C. Wood[2] gives the dose as a hypnotic at one drachm; he quotes Kraft-Ebing as having given three drachms per day for spinal accessory spasm.

The "Annual of Medical Sciences" for 1891 (vol. v., p. 117) gives the average dose at 1 drachm. Flint reports 35 cases, dose ranging from 60 to 90 minims.

C. Conquil[3] says that "abroad and in Italy doses of 3 j. 3 jss., and 3 ij. a day are given; Dujardin-Beaumetz gives 30 grains in order to suppress the initial period of excitability which follows on larger doses.

Desnos claims that if hypnotic effects are not obtained with from 45 to 60 grains, it is useless to push it.

H. A. Hare[4] gives the dose at from 30 to 60 minims, if I remember correctly.

S. Ringer[5] says: "The narcotic dose for an adult is from 30 to 50 minims."

I have never ventured to give more than 60 minims at a dose, and have often had good results with much smaller doses. If 3 ijss. can be given with impunity, it would be interesting to hear from a few cases in which this quantity has been administered in one dose.

J. NOER, M.D.
STOUGHTON, WIS., January 10, 1892.

Strontium Salts have been shown by Laborde (*Brussels Academy of Medicine Reports*) to be valuable and non-poisonous therapeutic agents, being better tolerated than the salts of potassium, and twice as active, besides having antiseptic and germicidal properties. Constantin Paul has, however, pointed out in a timely manner that the drug is difficult to obtain in a pure state and almost always contains salts of baryta, which are very poisonous. Accidents have already happened from the use of iodide of strontium.

[1] Pepper's System of Medicine, vol. v., p. 645.
[2] Therapeutics, seventh edition, p. 194.
[3] New Remedies, 1889.
[4] Therapeutics.
[5] Therapeutics, twelfth edition.

A CRITICISM ON MEDICAL TEXT BOOKS.

To the Editor of the Medical Record.

SIR: It is the intention of the writer to say something conducive to the relief of young practitioners from an embarrassment which is probably experienced by every conscientious person entering upon the practice of medicine.

It is presumed that the "young physician" has enough knowledge to know in most cases whether or not he has a serious case to treat. Suppose he has a severe case to treat, he sits down to read it up. Then it is he finds how rich medical literature is in indefiniteness. How noncommittal is his book. One therapeutic measure he often finds is *sea bathing*. He is in a town hundreds of miles from the sea-shore. It is perhaps mid-winter and the patient poor. All other therapeutic measures in this particular case are put down in an apologetic manner that is highly discouraging. Did it ever occur to medical authors how very few people are ever able to see the ocean, much less bathe therein? Will some one of our prominent authors volunteer to write a text-book of medicine and shun sea-bathing as a therapeutic measure? The writer believes it to be less serviceable than "tuberculin." It is difficult enough for people to get money with which to pay the doctor, let alone going to the sea-shore, and more often than otherwise coming home to harass the home doctor all winter and leave for the sea-shore in the spring. What the puzzled doctor wants when he reads, is a book written by a man who has the courage of his own convictions and a smattering of perspicuity in transferring the same to paper.

Another glaring defect in nearly every text book of medicine is the lack of details. The *pathology* is apt to be rich in details. However, the friends of a corpse do not appreciate his perfection as a subject of pathological investigation. We want details, and *detailed details*, upon the whole of any disease under discussion. How few inexperienced physicians know how to arrange their treatment to meet the varying stages of a disease. Particularly an acute disease requiring prompt action and no faltering. For lack of details in his whole medical education, he charges on the enemy too late.

Diseases of children is another neglected subject in our medical schools. The clinical teaching in this department of our colleges is almost a farce. The students spend their time in hospital wards examining adults. They see a few children in the "out door clinic," and then mostly such cases as can be carried through the streets. The student catches the mumps or the measles more often than he does a practical hint on the management of a sick child.

Another thing which the professor of materia medica and therapeutics does not have time to teach, is why he gives a maximum dose to one patient and a minimum dose to another, using in each case the same drug. The difference in physique is not always the reason. Little is ever said to students about the difference of susceptibility of different individuals to the action of a drug. Much is said about "idiosyncrasy." The peculiarity known as "idiosyncrasy" is more often the result of habits or perversity of the patient, which the physician fails to detect and so accepts the situation, and names it an "idiosyncrasy."

Climate very largely influences the action of drugs. Provincial habits of living also. A student educated in medicine on the Atlantic coast is taught to prescribe on that coast, and is nearly lost on the Pacific coast. A climate having a wide range between the summer and winter temperatures always furnishes patients who respond most quickly to the action of drugs; while a climate of a more constant temperature furnishes the converse. Let our teachers of medicine be more detailed in their teaching, if they have to cover less ground. Let the course of medical education be prolonged to meet the requirement.

E. H. SMITH, M.D.

J SANTA CLARA, CAL.

THE HARM OF NAUSEATING EXPECTORANTS IN THE BRONCHITIS OF CHILDREN.

To the Editor of the Medical Record.

SIR: I have not had time to consult the literature on this subject, and therefore I may be going over a "thrice told tale," but I feel that the subject is important enough to be repeated, as a talk with the profession will convince anyone that nauseating expectorants in the bronchitis of children still hold a high place in the minds of the majority. I believe many children are made seriously ill, probably carried beyond the point of recovery, by these nauseating expectorants, which are generally most harmful in the treatment of the disease in children under four years of age. I will state here that I do not include that fatal disease, capillary bronchitis, but that my remarks are confined to bronchitis of the larger bronchial tubes—a very common disease among children—particularly the children of the working classes, whose parents are entirely ignorant or indifferent to the laws of hygiene. Nauseating expectorants not only depress the system, but they lessen the desire for food, thus rendering it more difficult to keep up the all-important nutrition. For the disease being a limited one, we must first look to the strength of the child. A liberal supply of nutritious food and stimulants enters largely into the treatment. The fever must be kept down by quinine—no drug will take its place. The mild alkalies do best as expectorants, and when I add to this list of remedies belladonna, I think we can cure most cases of bronchitis of the larger tubes found in children. Nauseating expectorants can only do good at some critical moment when the tubes are found to be rapidly filling up, and here belladonna proves a most valuable prophylactic; for if it has been used, the case will be rare in which the mucus becomes excessive; and if the strength of the child has been kept up, nature will, at the proper times, relieve the overfull tubes by vomiting. The mucus can be kept loose in the tubes by allowing the child to inhale steam, say every two hours. Vomiting is oftener brought on by the spasmodic element in the cough, than by an effort to rid the tubes of mucus; and belladonna in a great measure controls the spasms, at the same time strengthening the heart and respiration. My remarks on bronchitis are equally applicable to the rather insiduous form of broncho-pneumonia occurring during whooping-cough. Let us hope that the use of nauseating expectorants, in the treatment of bronchitis in children, will only find a place in some few exceptional cases.

PHILIP S. ROY, M.D.

14 I STREET, N. W., WASHINGTON, D. C.

Feigned Hæmophilia.—Dr. Unverricht showed a patient who for several months had bled from the ears, nose, and eyes, and had frequent hæmaturia. The right side of the body showed paralysis, and there was hemianæsthesia and hemianopsy. At a time when hæmaturia was supposed to be present, the urine was drawn off under chloroform narcosis and found normal. At the same time a needle was found adroitly concealed in the hand. This was replaced before consciousness was recovered, and shortly afterward another bleeding from the ear occurred, but this time the puncture of the needle was plainly visible in the external meatus. It was further demonstrated that the blindness and deafness which the patient claimed were only assumed. The opinion is advanced that such instances of bleeding from the skin, eyes, ears, etc., are always due to more or less clever simulation, and that the cause can be found if persistently looked for.—*The Lancet.*

To Remove Rust from Iron.—Scour with a mixture of one part each of cyanide of potassium and soft soap, and two parts of whitening made into a paste with a little water; then wipe off carefully and apply oil to prevent further action.

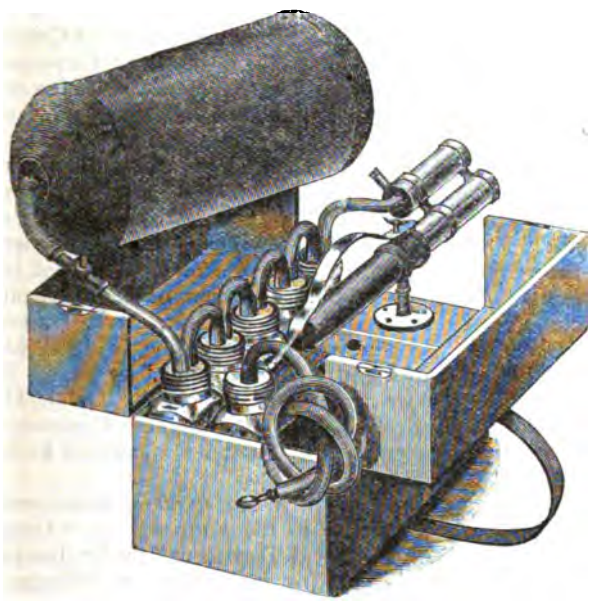
New Instruments.

AN IMPROVED FORM OF PORTABLE APPARATUS FOR EVOLVING AND PURIFYING OXYGEN.

By SAMUEL S. WALLIAN, A.M., M.D.,

NEW YORK.

THE use of oxygen, both by physicians and surgeons, has become so general and so fairly indispensable within the past decade that the necessity for convenient and efficient forms of generators for its prompt evolution in a pure state and in reasonable quantities has become a question of considerable importance. Until recently Limousin's apparatus, made by Galante, of Paris, has been considered the leading one for medical use. It is now conceded that those of American manufacture have relegated the



French device to the days of the stage-coach. For several years this market has been supplied with a very effective and convenient small apparatus, with a capacity ranging from six to twelve gallons at an operation. I have recently devised a modified form which combines some advantages not heretofore deemed feasible in a portable apparatus, viz., great compactness with considerably increased working capacity.

The accompanying illustration gives a general idea of this improved form of apparatus.

Instead of the usual form of containing case, the top or cover is divided vertically, each half opening toward its respective side and being held, when open, at right angles to the case proper by means of stop-hinges, the object gained being a protection of the lighted lamp from air-currents which, in an open situation, sometimes retard the progress of an operation. There are compartments accommodating six wash bottles and an inhaling bottle; or one of them may be utilized as a convenient receptacle for extra retorts, or for a bottle containing alcohol.

The retort-socket or standard is fitted to accommodate a duplex cylinder cooler and two sizes of retorts, the smaller one affording about fifteen gallons and the larger one twenty-five gallons of oxygen at each operation. The retorts are of brass, and are attached to the socket or nipple by a friction joint, screw connections having been found fatally defective in practice. The smaller retort is self-supporting during an operation, while the larger and longer one is firmly held in position by an adjustable arm or support made of tempered brass and held in position by a thumb-screw.

Notwithstanding the increased capacity of this instrument, the case, having storage capacity sufficient to accommodate all accessories needed for its immediate use, measures but $9 \times 10\frac{1}{2} \times 14\frac{1}{2}$ inches, a not at all unwieldy size for convenient transportation.

The cooler, which is designed to cool the escaping gas sufficiently to prevent overheating the rubber connections, is attached in a horizontal instead of the usual upright position when in use, with a view to greater efficiency. When from rapid or prolonged use there is any tendency to excessive heat, it can be promptly obviated by applying a wet cloth or sponge to the prone body of the cooler.

The wash-bottles are fitted with an ingenious form of hard-rubber pulverizing tubes, and with rubber stoppers or corks having a projecting lip or flange which, by means of a metal screw cap, is accurately compressed against the mouth of the bottle, thus affording a double and very effectual safeguard against leakage. Using two alkaline and two nitrate of silver solutions, in connection with a filtering bottle of absorbent cotton, the passing gas, broken into minute bubbles by the pulverizing tubes, is thus much more perfectly washed and purified than has heretofore been accomplished. The filtering-bottle is a duplicate of the other wash-bottles, except that instead of containing a corrective solution it is closely packed with absorbent cotton, which has been found to effectually intercept certain sublimed products of the decomposition of chlorate of potassium, traces of which unaccountably escape detention in the wash-bottles proper.

Heat for evolving the gas is applied by means of spirit-lamps, two of which are provided, so that, especially when using the larger retort, an exhausted lamp may be instantly replaced by a full one without interrupting the operation. For use in these lamps, which are made on the argand principle, are packed with asbestos fibre, and have a perforated double bottom, deodorized wood-spirit answers perfectly, while it costs about one-half as much as ordinary alcohol.

The accessories provided with each instrument include two pure gum-bags holding twelve to fifteen gallons each, inhaling bottle, connecting tubes, and mouth-pieces for inhaling purposes. When it is desired to intensify the slight degree of ozonization always present in freshly-evolved oxygen, the sixth or extra wash-bottle is to be about half filled with a 15-volume solution of the best obtainable hydrogen dioxide. It is then to be used as an extra inhaling bottle, by being connected with the rubber gas-holder, between the latter and the regular inhaling bottle. In this case the inhaling bottle proper may be used entirely empty, to prevent any spray of the solution from penetrating the inhaling tubes. The only brand of hydrogendioxide which has fully met the requirements as to strength and stability is that prepared by the Oakland Chemical Company, of this city, and known as the "O. C." brand.

WEST 181ST STREET, WASHINGTON HEIGHTS.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 23, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	5
Scarlet fever	240	35
Cerebro-spinal meningitis	2	3
Measles	160	8
Diphtheria	111	34
Small-pox	10	0
Varicella	13	0
Pertussis	0	1
Erysipelas	5	0
Leprosy	1	0
Rötheln	0	0

Medical Items.

Eighty-sixth Annual Meeting of the Medical Society of the State of New York, to be held in Albany, Tuesday, Wednesday, and Thursday, February 2, 3, and 4, 1892. A. Walter Sniter, Herkimer, *President;* F. C. Curtis, Albany, *Secretary.* "The Removal of the Uterine Appendages for Hystero-Epilepsy." Discussion by A. Vander Veer, M.D., of Albany; William M. Polk, M.D., of New York; Paul F. Mundé, M.D., of New York; H. J. Boldt, M.D., of New York; A. P. Dudley, M.D.,——; Joseph Price, M.D., of Philadelphia, Pa.; C. A. L. Reed, M.D., of Cincinnati, O. "Four Cases of Monocular Blindness immediately following Injuries of the Skull," by Dr. Peter A. Callan, of New York; "Cases of Glaucoma Illustrating Different Modes of Treatment," by Dr. O. D. Pomeroy, of New York; "Cases of Refraction," by Dr. Francis Valk, of New York; "Embolism of the Cerebral Artery of the Retina as the Sequel of Rheumatism," by Dr. W. F. Mittendorf, of New York; "Methods of Advancing the Internal Rectus Muscle for Divergent Strabismus," by Dr. Lucien Howe, of Buffalo; "A Unique Case of Lympho-Adenitis of the Eyelids of each Eye, with Recovery," by Dr. B. H. Grove, of Buffalo; "The Methods of Administering Galvanism in Gynecology," by Dr. W. E. Ford, of Utica; "Notes of Two Cases of Myxœdema with Autopsies," by Dr. H. C. Gordinier, of Troy; "A New Hip Splint," by Dr. S. R. Morrow, of Albany; "Fractures of the Skull, with Report of Cases," by Dr. J. H. Van Rensselaer, of Oneonta; "Biliary Colic, its Diagnosis and Treatment," by Dr. C. W. De Baun, of Fonda; "The Personal Equation in Dermatology," by Dr. L. Duncan Bulkley, of New York; "A Plea for the Methodical Treatment of Chronic Diseases," by Dr. S. Baruch, of New York; "Perforation of Typhoid Ulcer, with Adhesive and Protective Peritonitis," by Dr. H. L. Elsner, of Syracuse; "A Pathological Review of Diphtheria, with Special Reference to a New Method of Treatment, Based upon Three Years' Practical Experience," by Dr. F. E. Martindale, of Port Richmond; "Asepsis and Antisepsis in Obstetrical Practice," by Dr. George Seymour, of Utica; "A Case of Polio-Myelitis Anterior Chronica," by Dr. C. E. Lockwood, of New York; "A Case of Pneumo-hydrothorax," by Dr. Eugene Beach, of Gloversville; "Mineral Waters in the Treatment of Disease," by Dr. Charles C. Ransom, of New York; "Treatment of Endometritis," by Dr. Ralph Waldo, of New York; "Amputation of the Vaginal Portion of the Cervix Uteri in Cases of Suspected Carcinoma," by Dr. Andrew F. Currier, of New York; "Some Factors in the Surgical Treatment of Perityphlitis," by Dr. W. G. Macdonald, of Albany; "Notes on Rare Diseases of the Skin," by Dr. George H. Fox, of New York; "Fibroid Disease of the Heart," by Dr. Alfred L. Loomis, of New York; "The Eruptive Fevers," by I. N. Love, of St. Louis, Mo.; "Treatment of Puerperal Convulsions," by Dr. W. H. Johnston, of Birmingham, Ala.; "Primary Cancer of the Liver, with Biliary and Renal Calculi," by Dr. W. D. Garlock, of Little Falls; "Pain, Its Natural Diagnostic Significance and Treatment," by Dr. J. Leonard Corning, of New York; "The Mental Derangements Observed in Multiple Neuritis, especially those of Alcoholic Origin," by Dr. E. D. Fisher, of New York; "Multiple Neuritis, Founded upon the Observation of Twenty-one Cases," by Dr. William Wotkyns Seymour, of Troy; "Therapeutics of Septic Diseases," by Dr. A. Jacobi, of New York; "What Protection have We from the Insane?" by Dr. Græme M. Hammond, of New York; "Infliction of Death Penalty by Electricity," by Dr. Carlos F. MacDonald, of New York; "Some Practical Suggestions Concerning the Tonsils," by Dr. F. H. Bosworth, of New York; "Nasal Catarrh in Children, Importance of Early Treatment," by Dr. John O. Roe, of Rochester; "Fibroids of the Naso-pharynx, and their Treatment by Means of Electro-cautery," by Dr. D. H. Goodwillie, of New York; "Hypertrophies upon the Cartilaginous Septum," by Dr. Wendell C. Phillips, of New York; "Extensive Croupous Exudation in the Larynx (with illustration)," by Dr. J. P. Creveling, of Auburn; "Early High Amputations in Senile Gangrene," by Dr. C. A. Powers, of New York; "A Method of Extirpating Diseased Seminal Vesicles," by Dr. Robert T. Morris, of New York; "Nephrotomy for the Treatment of Sudden Anuria Occurring Some Time after Nephrectomy (with Report of a Successful Case)," by Dr. Willy Meyer, of New York; "Open Incision for Talipes Varo-equinus (reporting Statistics and presenting the First Cases operated upon in 1879)," by Dr. A. M. Phelps, of New York; "Operative Procedures for Displacement of the Uterus," by Dr. A. E. Herrick, of Grand Rapids, Mich; "Intra-uterine Tamponade," by Dr. H. C. Coe, of New York; "A Case of Extra uterine Pregnancy, Death of Fœtus at Third Month, and Fatal Hemorrhage Outside the Sac at Fourth Month," by Dr. I. S. Stone, of Washington, D. C; "Gynecology by the General Practitioner," by Dr. A. E. Abrams, of Hartford, Conn.; "Rapid Dilatation of Cervix Uteri," by Dr. Walter B. Chase, of Brooklyn; "Cæsarean Section, with Report of Two Cases," by Dr. Charles Jewett, of Brooklyn; "The Surgical Treatment of Trigeminal Neuralgias," by Dr. Maurice H. Richardson, of Boston, Mass.; "Compound Fractures and Their Treatment," by Dr. Herman Mynter, of Buffalo; "Notes on the Operative Treatment of Urethral Strictures," by Dr. F. R. Sturgis, of New York; "The Crossed Suture," by Dr. George R. Fowler, of Brooklyn; "The Advantages of Rest as Produced by Operative Measures in the Treatment of Œsophageal, Rectal, and Urethral Strictures," by Dr. Arch. Dixon, of Henderson, Ky.; "Intra-venous Saline Infusion for the Relief of Shock and Acute Anæmia," by Dr. L. S. Pilcher, of Brooklyn; "Surgical Shock," by Dr. J. H. Packard, of Philadelphia, Pa.; "Supra-pubic Cystotomy for Various Purposes," by Dr. Hunter McGuire, of Richmond, Va.

Discussion on the Surgical Management of Genito-urinary Calculus.—a. "Stone in the Kidney." 1. "Diagnosis, Indications for Surgical Treatment," by Dr. Joseph D. Bryant, of New York (by invitation). 2. "Surgical Treatment," by Dr. Lewis A. Stimson, of New York. *b.* "Stone in the Ureter," by Dr. Arthur T. Cabot, of Boston, Mass. (by invitation). *c.* "Stone in the Bladder, what Special Indications should Govern a Choice of Operation as between Lithotomy and Lithotrity," by Dr. Edward L. Keyes, of New York, and Dr. L. Bolton Bangs, of New York; "Note on Lacerations of the Cervix Uteri," by Mr. Graily Hewitt, of London, Eng.; "Dilatation and Drainage of the Uterus for Disease of the Endometrium," by Dr. W. Gill Wylie, of New York; "Ectopic Gestation, Its Comparative Symptomatology and Treatment," by Dr. Joseph Hoffman, of Philadelphia, Pa.; "Vaginal Hysterectomy for Cancer," by Dr. E. W. Cushing, of Boston, Mass.; "Drainage in Abdominal Work," by Dr. Mordecai Price, of Philadelphia, Pa.;

The meetings will be held in the City Hall, as heretofore; they will commence at 9.15 A.M. on Tuesday, and end at 5 P.M. on Thursday. The usual reduction in railroad fares can be secured; a certificate of the purchase of a ticket should be obtained from the station-agent at the starting-point, which will be endorsed by the Secretary at the meeting, and entitle to one-third return fare. The annual dinner will be at the Delavan House on Wednesday evening. Communications regarding papers should be addressed to the Business Committee, Dr. Seneca D. Powell, 12 W. 40th Street, New York; Dr. James D. Spencer, Watertown; Dr. Franklin Townsend, Jr., Albany.

Punishment of a Quack.—Dr. Mylins, of Leipsic, maker of a well-known nostrum against the gout, has been sentenced to several months' imprisonment for hastening the death of a patient to whom he gave the specific without proper care.

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Original Articles.

THE TREATMENT OF PNEUMONIA.[1]

BY J. L. GREENE, M.D.,

RED CLIFF, COL.

IN the section where I have practised medicine for several years past, at an altitude of seven thousand to ten thousand feet above sea-level, pneumonia is very prevalent and very fatal. We have a form of the disease called "congestive," or "high line," pneumonia, which often kills the patient in a few hours, and if relief is to be obtained at all it must be speedy. Clinical observation of such cases convinced me that the patient wanted oxygen, and wanted it rapidly and abundantly. In casting about for a source of supply, it occurred to me that peroxide of hydrogen ought to meet the indications, and I tried it; and clinical experience soon proved that it was exceedingly valuable for controlling congestive pneumonia, croupous pneumonia, membranous croup, and in fact any affection in which it is desirable to dissolve secretions in the lungs or throat. It appeared to be quickly absorbed into the blood, and the oxygen exhaled through the lungs, dissolving and carrying off the morbid secretions with the expired air. I commenced its internal use in 1888, but at that time there was very little literature on the subject, and I did not use it freely until I had felt my way. The authorized dosage was one to three teaspoonfuls, three times in twenty-four hours. Even after doubling and trebling the frequency of the dose, the results were not as good as at present, though I ceased losing cases of pneumonia. The patients might be very ill, but they did not die. I was previously using the drug as an antiseptic in surgical cases, and had observed its power as a germicide, and being an adherent of the germ-theory as regards pneumonia, I ventured to hope from the first that it might destroy the specific germ, and hence used it freely in all forms of the disease, whether dyspnœa was present or not. My experience has convinced me that it does destroy the germ, for the disease, instead of going on to a crisis, will, when this treatment is begun early in the case, commence to fade away in from twenty-four to forty-eight hours, and no crisis will occur at all. However, cases of acute lobar pneumonia, without dyspnœa, which are not treated till the disease has made considerable progress, will have a modified crisis. Any line of treatment is liable to be at a disadvantage in this form of the disease, as the patient and his friends will sometimes consider it only a bad cold, with perhaps a touch of pleurisy, and will not call medical assistance till the disease is strongly entrenched. But in congestive and croupous cases the dyspnœa is so distressing and alarming that the physician is called early. I believe this is the reason why it sometimes appears that this treatment is less efficient and prompt in the lobar and typhoid, than in the congestive and croupous types.

The dosage necessary to be efficient is something appalling to a practitioner not accustomed to it. The object is to saturate the patient with the medicine as soon as possible, and then to keep it exhaling through the lungs. An adult will bear half a teaspoonful of Mallinkrodt's preparation in two teaspoonfuls of cold water, or from one to three teaspoonfuls of Marchand's, Drevet's, Herf & Frerich's, or any other of the fifteen-volume solutions, well diluted, once in three to five minutes for an hour or more. The same dose may then be given half-hourly, or hourly, till convalescence is established; and it should be crowded as at first at any time if dyspnœa returns. There is no ill effect from it except occasional nausea and vomiting, apparently from mechanical irritation of the stomach. In such cases it is well to decrease the dose a little, and increase the amount of water given with it. But in cases of young children, especially infants in arms, it should be crowded till vomiting is induced, to remove accumulations which they are unable to throw off by expectoration, and which may not be dissolved rapidly enough by the oxygen. Children, even but a few weeks old, bear it remarkably well, and will take proportionately larger doses than adults. It also seems to me a clinical fact, that nearly all cases progress more satisfactorily if treated for a day or two at the outset with rather large doses of hydrargyrum cum cretâ, or hydrargyri chloridum mite, and that typhoid types should have frequent doses of oleum cinnamoni in addition to the peroxide of hydrogen.

Formerly, when treating pneumonia on the expectant plan, and believing the common fallacy that no treatment could cut short or abort the disease, I was opposed to the use of antipyretics of the coal-tar series, and as late as July 20, 1889, in an article published in the NEW YORK MEDICAL RECORD, outlining the present treatment, I expressed the opinion that they were of no benefit. Nor would I now advocate their use in the expectant treatment. But further experience has modified my views of such antipyretics when used in connection with this new line of treatment. It appears to be an advantage to bring the fever down and hold it down, depending on the oxygen to destroy the germs rather than letting them burn out with the fever. For a year or more I have been accustomed to control the fever during the few days it persists, with acetanilid, or phenacetin, using a full dose at first, and small repeated doses afterward. I have not been able to discover any ill effects from it. There is nothing in this treatment to prevent meeting any complication with rational measures, but there is far less use for digitalis, or other heart tonics, than with the expectant plan.

I have, from time to time, called the attention of practitioners to this method of treatment, but with the exception of several Denver physicians, it has appeared to be outside their zone of lucidity. It was either too simple to be seriously thought of, perhaps, or was not tried heroically enough to produce results. Indeed, certain practitioners, without making themselves acquainted with the treatment, have not hesitated to account for its visible success by insinuating that the cases were not pneumonic. However, with the pathognomonic rusty-colored sputa present, my confidence in the diagnosis has not been greatly disturbed.

Since 1888 I have treated 157 cases which were not of doubtful diagnosis, besides others which I believe were pneumonic, but which were taken in hand almost with the inception of the disease, and cut short before the development of pathognomonic symptoms. Of the 157 undoubted cases, 154 made good recoveries; of the three who died, one was an infant a few weeks old, a long distance in the country, and past recovery when first seen; another was a young lady in an advanced state of phthisis pulmonalis. She died of pulmonary hemorrhage, while convalescent and able to sit up after the attack of pneumonia; and the third was a middle-aged woman who had

[1] Read before the Colorado State Medical Society.

a valvular disease of the heart, and had been under my care for that trouble most of the time for two years previous to the pneumonic attack. She could not have lived very long, but her death, as well as that of the consumptive, was undoubtedly hastened by the attack of pneumonia. The recoveries include very young children, aged persons, drunkards, and persons with constitutions impaired by excesses, as well as the robust and vigorous.

In conclusion, I would say that while this treatment has been almost phenomenally successful in my hands, there are other members of this Society who have used it to some extent, and whose experience will go to confirm what I have said. I believe if the members of the Society who listen to this paper will give the matter a fair consideration, the mortality from pneumonia will be materially lessened in our part of the country.

THERAPEUTIC RESULTS OF DIRECT ELECTRIZATION OF THE STOMACH.

By MAX EINHORN, M.D.,

PHYSICIAN TO THE GERMAN DISPENSARY AND INSTRUCTOR IN CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

(Continued from page 122)

V. *Chronic Gastric Catarrh with Beginning Atrophy of the Mucous Membrane of the Stomach.*—1. Johann K——, twenty-seven years of age, complained for four years of a poor appetite, of a sensation and fulness after meals; suffers greatly from repeating; there is vomiting once in a while; bowels constipated.

October 31, 1890.—Status præsens: Patient pretty thin; chest normal; the stomach reaches to midway between the navel and the symphysis (tested by the gastrodiaphan and by the splashing sounds that can be produced); the stomach region is not sensitive on pressure.

November 2, 1891.—The examination of the stomach contents one and a half hour after the test-breakfast shows: HCl = 0; acidity = 34; rennet ferment +. Repeated examinations after the test-breakfast always gave about the same results, *i.e.*, the absence of free HCl.

Diagnosis: Gastritis glandularis chronica; atrophia mucosæ incipiens; dilatatio ventriculi.

The treatment consisted in direct gastro-faradization (October 31 to November 16, 1890, and April 13 to 26, 1891), besides the other usual therapeutic measures. The complaints of the patient soon ceased; his appetite improved and he had no repeating. As mentioned above, free hydrochloric acid could not be detected here after the test-breakfast.

On November 16, 1890, a trial was made to ascertain whether faradization would induce the stomach to secrete a sufficient quantity of HCl for its positive detection. With this end in view the patient was given while fasting 300 c.c. of water and was directly gastro-faradized for ten minutes; twenty-five minutes later a portion of the water was taken from the stomach; it looked greenish in color due to a small quantity of bile. The analysis showed: HCl +; acidity = 16.

In this way it was possible to prove that the faradic current in this particular patient, in whom otherwise free hydrochloric acid could not be found, produced a secretion of gastric juice with the presence of free hydrochloric acid.

The patient felt quite well during the whole winter after the treatment. On April 13th, however, the electrical treatment had to be resumed, on account of reappearing digestive troubles, but on April 26th the patient was dismissed as improved. The chemical condition of the stomach, however, has not visibly changed, in so far as there cannot be found even now free HCl one hour after the test-breakfast.

2. March 14, 1891.—August S——, thirty-two years of age, complained for about three and a half years of obstinate constipation and pains in the gastric region, radiating to the spine and to the shoulders; has lost fifteen pounds during this sickness; there is no vomiting; appetite always fair; stomach largely distended; splashing sound down to a point two or three fingers' breadth below the navel; sleep good; during night the patient is no way troubled; tongue slightly coated.

March 15th.—Two hours after the test-breakfast nearly the whole quantity of the meal was obtained. The analysis showed: HCl = 0; acidity = 20; rennet ferment + (several other examinations showed again the absence of the free HCl after the test-meals).

Diagnosis: Gastritis glandularis chronica with dilatation; beginning atrophy probable.

Besides HCl and a few washings of the stomach in the beginning, the direct gastro-faradization had been applied from March 15th to April 19th. The patient grew better, inasmuch as the pains ceased, but the examination of the stomach contents one hour and a half after the test-breakfast showed, on April 17th, HCl = 0; acidity = 22; rennet ferment +. Thus there was no substantial change in the chemical condition of the stomach.

3. February 21, 1891.—Henry K——, thirty-three years of age, suffered for ten or fifteen years from "spitting of water." By this phrase the patient meant to express the belching of a considerable amount of a tasteless fluid from the stomach into the mouth, which he then expectorated every day or at least every other day. Sometimes this occurred ten or twelve times during the day. For the last eight or nine months the patient had this spitting after each meal. Appetite never good, although the patient could partake of each meal. When a boy he was strong and stout, but has been thin since his twentieth year. Sleep good; bowels moved every other day, but not regularly. During the last thirteen years there has been from time to time vomiting (*i.e.*, the ejection of the whole meal). Before the vomiting the patient had a sensation of oppression.

The physical examination of the chest organs reveals nothing abnormal. The stomach reaches down to within two fingers' width of the symphysis, as shown by gastrodiaphany and splashing sounds.

February 22d.—One hour after the test-breakfast: HCl = 0; acidity = 14; rennet ferment +. (Similar results have been obtained by examination on several other occasions)

Diagnosis: Dilatatio ventriculi; gastritis glandularis chronica; regurgitatio; atrophia incipiens.

After direct gastro-faradization (from February 21st to March 26th every other day, and during April, 1891, once a week), and occasional lavage of the stomach, the patient's condition was ameliorated; "the spitting" greatly diminished (it now occurred only about once every other day), the appetite improved, and the patient felt stronger. Examinations of the stomach contents were made quite frequently; they always showed, however, nearly the same results; free hydrochloric acid was absent, but the ferments of the stomach, pepsin and rennet, were found to be present; the acidity was always very low, and varied from 14 to 22. Only once it was possible to detect the presence of free hydrochloric acid in traces; namely, on February 27, 1891, one hour after the test-breakfast, after ten minutes of direct gastro faradization the acidity was = 22.

At the end of the treatment the patient did not believe that he had gained in weight; the bowels moved regularly every day and the spitting had almost entirely ceased. This amelioration lasted even after the discontinuation of the treatment. I saw the patient again on November 3, 1891, and he reported that the "spitting" had not reappeared and that the bowels moved regularly every day.

Atrophy of the Mucous Membrane of the Stomach.—In the case of atrophy of the mucous membrane of the stomach, which had improved under lavage and a suitable mode of life, direct gastro-faradization was applied; this produced about the same result as the lavage of the stomach. The faradization in this case shows little that

is noteworthy, and I have given a full report of this case, which is very interesting from the clinical point of view, in the *New York Medicinische Presse*.[1]

Whereas in all above described cases (with the exception of Captain L. M——, Sub. IV.) after the frequent application of direct gastro-faradization there was a decrease, or rather a disappearance, of all the subjective symptoms of disease, in five others suffering chiefly from gastralgia there was noticeable a slight amelioration of the symptoms, but in no sense a disappearance of the same. In all these cases the galvanic current was afterward successfully applied.

A detailed description of all of them is given under the following heading of Galvanization.

B. **Direct Galvanization of the Stomach.**—The investigations made in regard to direct gastro-galvanization are very few, for the reason that direct gastro-electrization has been until lately applied only rarely, and then usually the faradic current was administered. On direct gastro-galvanization there is in literature only one detailed contribution, by Bardet.[2] This author has treated one case of nervous vomiting and three cases of dilatation of the stomach, combined with symptoms of atony, with the constant current by means of a stomach electrode designed by himself.

In the case of nervous vomiting a remarkable amelioration ensued after three weeks of galvanization (the positive pole being in the stomach); the pains, however, remained just the same as before. In the three cases of dilatation the constant current was applied with frequent interruptions. In all these cases there was an improvement in stomach digestion, notwithstanding that the size of the stomach did not noticeably change.

As stated above, I have tried the application of the galvanic current in several cases in which faradization did not prove of much benefit, and have had good results. I refer to five cases of severe gastralgia from various causes (as will be seen from the histories); no therapeusis proved of any value, and even faradization was without effect, galvanization alone bringing benefit. I may be allowed to relate these cases in full, as they were reported in the *New York Medicinische Monatschrift* (September, 1891).

1. Augusta K——, twenty-two years of age, school-teacher, began treatment October 25, 1890. Patient complained for several months of having severe pains after meals; she has also become much weaker of late; from time to time there were attacks of pain of very intense character.

Examination showed the color of the lips and of the mucous membranes to be somewhat pale; at the apex of the heart there was a slight systolic murmur; the heart was not enlarged; pulse accelerated. Nothing abnormal could be detected in the lungs. The gastric region is sensitive on pressure, this being more noticeable at the epigastrium; the lower contour of the stomach is situated somewhat (one finger) above the umbilical line. The urine contains neither albumin nor sugar.

Examination of the stomach contents on October 26, 1890, two hours after the test-breakfast, showed: HCl +; acidity = 34.

Diagnosis: Insufficientia mitralis; gastralgia nervosa. The patient was gastro-faradized internally from January 1 to January 10, 1891, but without any special result. Codeine and phenacetin, which were given to combat the pains, were without effect.

January 23, 1891. Direct galvanization of the stomach (negative pole in the stomach, strength of the current being 15 to 20 milliampères) was administered every third day up to February 4th; thereafter once a week up to March 4th, on which day the cure was considered as finished.

After the first galvanic sitting the patient reported that the pains became slighter and the attacks less frequent. On February 4th the patient said that she had been free from pains since the last galvanization. She gained in weight thereafter, and has had no pains thus far up to date.

2. The history of patient, H. F——, thirty-five years of age, clergyman, has already been partially reported by me. Three years ago I presented this patient at the German Medical Society of New York as a typical case of gastrosuccorrhœa continua chronica, and published the same in the *New York Medicinische Presse*, September, 1888. The patient at that time had been sick for four years. In reference to the condition of his disease I said at that time, that, notwithstanding the constant vomiting had been successfully stopped, and the patient had been brought into a much better condition by the rational treatment (lavage of the stomach, alkalies, and suitable diet), the sickness as such, the continuous flow of gastric juice, however, had not been relieved.

In the above paper I said: "Objectively I have been able to note a diminution of the quantity of fluid found in the stomach when fasting; but I have not succeeded in reducing the excessive secretion of the stomach to the normal." From September, 1888, to December, 1890, the condition of the patient, who was all the time under my observation, remained the same; there was always found in the stomach when fasting a certain amount (40 to 80 c.c.) of gastric juice containing hydrochloric acid and the specific ferments of the stomach (pepsin and rennet). During all this time the patient was never free from pains, although they were not of an intense character. In the year 1890 the pains began to increase; they were principally in the epigastric region and radiated to the back. On account of his pains the patient could not lie on his left side, and complained of a very restless sleep. The cough, which appeared in the middle of 1889, then became more intense and frequent, although nothing could be detected abnormal in the lungs. Palpation of the gastric region caused pain. Chloral hydrate produced but little influence on the pains, and bromide of sodium, which the patient took for quite a while, had diminished the cough but not the intensity of the pains.

During November and December, 1890, direct gastro-faradization was applied, but this, likewise, did not have the desired effect. For this reason, in the beginning of January, 1891. direct galvanization of the stomach was administered first twice a week and thereafter only once a week. At the end of February last the galvanic treatment was discontinued. Immediately after the first galvanic séance the pains became much slighter than ever before; after a few more sittings the intense pains the patient used to complain of before ceased entirely. In March last it was noticed that the stomach of the patient was empty when fasting, something that had never before happened during the three years of treatment. Since that time the patient has often been examined when fasting, and there was always the same result found, namely, the stomach was empty. Thus far the pains have not reappeared, and the patient is better and healthier in appearance, and has gained several pounds in weight. Thus the previous condition of continuous flow of gastric juice has not existed since March last, and it is interesting to ascertain the chemical condition of the stomach at present. An examination of the stomach contents, made for this purpose, in May, 1891, one hour after the test-breakfast, proved the presence of hydrochloric acid and an increased acidity (= 120).

In this way we see that the previously found hyperacidity persisted, although the abnormal secretion of gastric juice during the time that there is no food in the stomach, has disappeared. Whether this favorable turn has been brought on by direct galvanization is hard to tell, although there are no other apparent circumstances by which the sudden change in the condition of the stomach secretion could be explained, except the direct galvanization.

On account of the persistent cough the patient was

[1] September, 1888.

[2] Bardet: Bull. Gén. de Thérap., 1884, t. 106, p. 529.

sent to Dr. W. Freudenthal, of this city, who found a lingual tonsil and an elongated uvula. The patient was treated accordingly, and although the cough did not disappear entirely, it is now much easier.

I may be allowed to remark that this is, according to my knowledge, the first case of gastrosuccorrhœa continua chronica mentioned in literature which was cured with cessation of that anomalous action.

3. Charles J——, aged twenty-one, merchant, complains for three months of having pain immediately after eating, by reason of which he is prevented from partaking of a sufficient quantity of food; there was vomiting once in a while; bowels constipated. Patient has become thinner and feels weak; he coughs from time to time, and is uneasy about his lungs.

July 9, 1891.—Physical examination shows thoracic organs normal; sensitiveness on pressure over the region of the stomach; no enlargement of the stomach can be discovered; the urine is free from sugar and albumin. On account of the weakness of the patient, pills of iron and strychnine were given at first.

July 10, the stomach contents were examined one hour after the test-breakfast by means of the stomach-bucket: HCl +; ten times diluted +; fourteen times diluted = 0. The chemical function of the stomach is not markedly disturbed; the acidity being only little above the normal limits.

Diagnosis: Gastralgia of nervous origin in combination with anæmia.

The patient was gastro-faradized internally every other day for a week, but without any apparent result; he still complains of being unable to partake even of a small meal; besides, he has often acid eructations. In addition to the pills the patient was advised to take, if necessary, three times a day, half a teaspoonful of a powder, consisting of sodii bicarb., elæosacch. menth. pip., āā equal parts. This powder gives the patient some relief, although his condition, as such, has not altered. He went to Washington on a business trip, and returned after a week, complaining of his previous troubles, besides of being restless and excited and sleeping poorly.

July 24th.—Sodium bromide was given, and direct faradization of the stomach was resumed, electricity being applied on July 24th and 27th. He, however, noticed but little amelioration, and was unable to eat sufficiently.

As the faradic current did not seem to achieve much in this case, direct gastro-galvanization was resorted to on July 29th. The negative pole was introduced into the stomach, the other (positive) electrode was placed beneath the ensiform process, a little to the left, for five minutes, thereafter for three minutes on the left side of the spine, over the sixth dorsal vertebra, and then again for two minutes in front. The strength of the current was 20 milliampères.

On August 1st the patient reported that he felt much better after the galvanization, and, what could be noticed most markedly, he could eat well, without having pains afterward; he was galvanized once more in the same way. The pills were discontinued. The patient subsequently caught cold and suffered from a pharyngitis, and in order to avoid an irritation of the throat the galvanization was omitted until August 8th, on which day the throat appeared well again. On August 8th and 10th gastro-galvanization as described above. Meanwhile the condition of the patient was highly ameliorated; he ate, to use his own expression, "like any other man," and had no pains whatever. He had a much better appearance, the cure was considered as finished, and the patient went to the mountains for his vacation.

In November last he reported that he had been all right since the electrical treatment.

4. June 15, 1891.—Miss Ida S——, twenty-seven years of age, began to have pains in the gastric region, especially after meals, six years ago. There was vomiting from time to time, and loss of appetite. The condition of the patient was somewhat improved after a sea-voyage to Germany. While there, however, the condition grew worse in 1887; vomiting of blood came on, and the patient was treated for ulcer at Frankfort-on-the Main. She felt somewhat better and returned to New York in 1889. While at sea she got worse and had several spells of vomiting of blood. Since that time the patient has suffered all the time, with only short intermissions, from entire loss of appetite, pains directly after each meal, and very frequent vomiting. The attacks of pain were often unbearable and the patient was frequently obliged to take refuge in morphine and alcoholic drinks, although even this means did not give her much relief. She is emaciated to a high degree.

Status præsens: Pain on pressure in the epigastric region; the stomach is deeply situated, from one to two fingers' breadth below the navel; there is splashing; the right kidney is movable.

June 26, 1891.—One hour after the test-breakfast: HCl +; acidity = 24.

Diagnosis: Enteroptosis; gastritis glandularis chronica; cicatrized ulcer; gastralgia.

Treatment: Tr. nuc. vomic., aq. amygdal. am., āā equal parts. M. S.: Fifteen drops, t. i. d., twenty minutes before meals. Sodii bromidi, 8.0; aq. menth. pip., 60.0. M. S.: A teaspoonful morning and evening.

[Tr. ferr. aromat. (Pizzala), two teaspoonfuls three times a day, had to be discontinued, as this preparation did not seem to agree with the patient.]

From June 16th to July 8th, direct gastro-faradization was applied every other day. On July 6th the patient began to take acid. mur. dil., twelve drops t. i. d.

Although direct faradization of the stomach had decreased the severe attacks of pain, they nevertheless persisted, and there was still the highest degree of anorexia. The patient could force herself to partake of only the smallest amount of nourishment, and even then vomiting ensued once in a while. On July 8th she again had a very severe attack of pain, and as the remedies given (bismuth and phenacetin, āā 0.4; codeine, 0.01, t. i. d.) did not bring much relief, on July 10th direct galvanization of the stomach was resorted to. From July 24th the galvanization was applied regularly every other day.

After the first electrical sitting the patient could eat more, the vomiting stopped, and the pains soon ceased entirely. One week after the galvanic treatment the patient had a better appearance and reported that her appetite was good and that the food agreed with her quite well; the previous nauseous feeling and the pains were absent.

July 24th, the patient was sent to the mountains. On August 24th she reported that she had gained four and a half pounds. The severe attacks of pain did not reappear during all this time, although the patient has still a feeling of uneasiness after meals lasting for about an hour; she is obliged to keep quiet during this time, and the process of digestion can proceed fairly; there is no vomiting.

Examination of the stomach contents on August 26th, one hour after the test-breakfast shows: HCl + (traces); acidity = 30; rennet ferment +.

The galvanization was continued once a week during October and the first part of November, and then stopped. The patient meanwhile had gained several pounds and felt very well; she fully enjoys her meals and has no pain.

5. Th. G. H——, thirty-seven years of age, engineer, was always well until eight years ago, at which time he had to undergo an operation for an anal fistula and was etherized. A few days after this operation the patient began to have pain in the scorbiculum soon after meals. The appetite was good. The heart-action was irregular, and he became ill humored. Three years ago his condition improved; but in April, 1891, a deterioration ensued after he had been to a festival. There was oppres-

sion, especially after meals; very frequent eructations (after which the patient felt better), the bowels were irregular; heart-action irregular from time to time. Appetite good. The main complaint of the patient refers to intense pains appearing in the gastric region, usually after meals, but sometimes, at irregular times, there is also frequently an apparent cessation of the heart-beat and in connection with it a sensation of extreme fear.

Status præsens: At the right manubrium sterni a systolic murmur is audible; the pulse is intermittent at long intervals. Stomach dilated; splashing is heard down to a point one finger's breadth below the navel. The gastric and epigastric regions are sensitive to pressure.

July 22, 1891.—One hour after the test-breakfast examination by means of the tube (only a small amount of material was removed and it was tinged with blood): HCl +; acidity = 4.

Diagnosis: Dilatatio ventriculi with erosions (perhaps ulcer); intense anæmia; it is a question whether the murmur is caused by the anæmic condition or by aortic stenosis; gastralgia.

Treatment: Pizzala, gymnastics, rowing, bathing; direct gastro-faradization every other day from July 23d to July 31st. The patient felt better; the pains were easier and the intermission of the heart-beat appeared less frequently. Notwithstanding this there was still always a sensation of oppression after meals, and from time to time the old attacks of pain returned, although less frequently than before.

The stomach was examined again on July 31st, one hour after the test-breakfast. On account of the erosions present the tube was avoided, and the contents obtained with the stomach-bucket: HCl +; dilution twelve times +. The acidity was therefore somewhat increased, and the following powder was administered: Magnes. ust., 5.0; bismuth subnitr., 10.0; sodii carbon. et bicarbon., sacch. lact., āā 15.0. Half a teaspoonful three times a day, two hours after meals.

Instead of faradization, direct galvanization of the stomach was applied every other day from August 2d, to 14th. The patient reported on August 4th that the pains had considerably decreased and that there was less oppression after meals; after the first week of galvanization the pains entirely disappeared. The intermission of the heart beat was not noticed, and on auscultation, I was not able to distinguish the murmur previously present at the manubrium sterni. The epigastric region was but little sensitive to pressure and in no way painful.

August 14th, the patient said that he had never felt as well during the three years of his sickness as during the last few days.

An examination of the stomach contents one hour after the test-breakfast, by means of the stomach-bucket, on August 14th, showed HCl +; five times diluted + little; eight times diluted = 0. Thus the acidity was somewhat diminished.

The patient was dismissed from treatment as considerably ameliorated, and sent to the seashore for further recreation. and recuperation. He returned to the city in October, having gained eight pounds in weight, and now has no complaints.

Although the five above-described cases are quite different from each other as regards the type of disease, they all, however, have one point in common, namely, a severe gastralgia, which resists every kind of treatment; the gastralgia, however, is the symptom which chiefly troubles the patient, and, as time goes on. seriously endangers his subjective and objective welfare. In all these cases the constant current, applied to the stomach-walls, brought much benefit, and this in quite a short time; the gastralgia succumbed to the influence of galvanization. This was the reason why in the two following cases of severe gastralgia I applied direct gastro-galvanization at once, without having first tried the faradic current.

6. Dr. L. R—— came under treatment October 14, 1890, complaining of attacks of pain after eating, which had existed for some days. Patient examined: chest normal, stomach not dilated, the epigastric region sensitive to pressure. On October 15th, the contents of the stomach were examined by means of the stomach-tube, one hour after having taken the test-breakfast: Reaction acid; HCl = 0; Rennet +.

As regards diagnosis, an ulcer was not believed to be present, but the trouble considered to be one of nervous character, as a result of mental overwork. Patient was given HCl, and on the 16th was faradized; on the 18th he stated that he obtained no relief from the faradization. From this date I did not see the patient again until January 29, 1891; he stated that at first he felt pretty well, but since the end of December had felt very bad; every day he would have two or three attacks of very severe pain, beginning in the scorbiculum and extending from there to the back. He was able to cut short an attack occasionally by taking food. He had been taking powders of bismuth, codeine, and belladonna, without obtaining any relief. He was somewhat emaciated as a result of the pains and the small amount of food taken.

An examination of the contents of the stomach showed a slight hyperacidity—with this exception the examination gave the same results as on October 14, 1890.

The diagnosis of gastralgia, made on October 14, 1890, was substantiated by the fact of the alternating character of the acidity. [February 25, 1891, one hour after the test-breakfast: HCl +; acidity = 96]

We advised the patient to have direct galvanization of the stomach applied. The gentleman did not place much confidence in electricity (especially since direct faradization had benefited him but little), but was persuaded to submit to the treatment. From February 5th to the 13th he received the constant current every other day; then every third day until the 28th; during the month of March it was only applied once a week, and after that it was omitted entirely.

The method of applying the current was the same as in the preceding case—negative pole in the stomach; strength of current, 15 to 20 milliampères; duration, ten minutes.

The progress of the case was as follows: After the first galvanization the patient stated that his pains continued, but were not as severe; after the second and third the number of attacks was diminished and the amount of pain was less severe; after the fifth application the pains had almost entirely disappeared; in the latter part of February they returned only once or twice, and were not at all severe. After this they did not return. The patient could eat well, his appearance was better, and he considered himself perfectly well. I deemed it advisable to apply galvanism once a week throughout the month of March, although the patient no longer complained of pains. He has enjoyed perfect health since then and has remained free from the attacks of gastralgia. Dr. L. R—— returned on December 1st and stated that for the past three weeks he had had exacerbations of pain, similar to those of a year ago, though less severe. Galvanism was begun at once and the probability that the duration of the affection will be shortened is shown by the fact that the symptoms have been already somewhat relieved.

My reason for selecting the negative pole for introduction into the stomach is that the cathode is understood to produce a stimulating action. In the majority of the cases treated by me I presupposed a diminished function, either of the secretory nerves or of the nerves which control the carrying along of the contents. Furthermore, the positive pole relieves pain, and so this was placed on that part of the skin where the pains were most severe.

7. August 10, 1891.—Gustav L——, aged twenty-six; always felt well until September, 1890, when he suddenly became sick, with loss of appetite, diarrhœa, and cramps; for five days he was not able to eat hardly anything; in about three or four weeks he was better, in so far that he

could eat. Until January, 1891, the patient felt well, then he began to suffer from eructations, especially in the morning, poor appetite and pains in the gastric region. The pain began in the scorbiculum and radiated to the back. The condition has remained the same up to date. After meals the pain was not increased, except when the patient had partaken of a large amount of food. The patient lost considerably in weight and was quite weak.

August 10, 1891.—Status præsens: Thoracic organs normal; epigastric region sensitive to pressure; the lower contour of the stomach is supposed to be situated in the umbilical line, as splashing can be produced down to this limit.

Diagnosis: Dilatatio ventriculi; gastralgia; ulcus (?).

August 22d.—The contents of the stomach were obtained one hour after the test-breakfast, on account of the doubtful ulcer, by means of the bucket: HCl +; five times diluted + (traces).

The patient was gastro-galvanized internally every other day from August 15th to 23d, thence to the end of September twice a week, and thereafter once a week until October 19th.

September 9th.—The patient reported that he had not had any pains since September 5th. The appetite was good and he felt generally much better than a fortnight ago. During the remaining time of treatment the patient had almost no pains whatever and gained three pounds in weight.

To my cases of severe gastralgia treated by direct gastro-faradization the following case, treated by Dr. Alfred Meyer, of this city, may be added.

Dr. Alfred Meyer was kind enough to send me a full report of his case and I may be allowed to publish the same with Dr. Meyer's own words. He wrote to me as follows:

"I saw the patient for the first time on September 11, 1891. He was twenty-eight years of age, intelligent, of rather a nervous type and light build. His sickness had begun about seven years before, rather suddenly, after taking a glass of ice-water while overheated. His complaint consisted of periodic attacks of intense pain in the epigastrium, accompanied or unaccompanied by vomiting. Originally there had been long intervals of good health between the attacks, but these intervals of comfort had grown shorter and the duration of the attacks longer. Present attack had begun in January of the present year. Patient had taken to bed in May, where he had been almost continuously, up to the time of my seeing him. During these years the treatment had included a very large proportion of the remedies usually administered in gastric diseases, whether of a functional or of an organic nature. They had been given singly and combined, allopathically and homœopathically. They included: Bismuth, bicarbonate of soda, pepsine, lactopeptine, muriatic acid, iron, iodoform, nitrate of silver, arsenic, belladonna, morphine, codeine, creasote, hypophosphites, nux vomica, tannin, charcoal. In addition, various forms of counter-irritation, external galvanization, rectal alimentation, and, some years ago, a few washings by siphonage. The patient describes the pains as radiating into the right and left hypochondrium, and into the back between the shoulder-blades. The pain was either lancinating or boring or grinding, and accompanied frequently by a feeling as though somebody were playing the piano on the patient's stomach. There seemed to be no relationship between the pain and the introduction of food into the stomach; in fact, there would frequently be distinct relief after eating or drinking. The vomiting had usually been of large quantities, according to the patient's statement, had never contained blood, but often remnants of food taken as much as twelve hours before the vomiting.

"Physical examination showed heart and lungs normal, liver and spleen normal, tongue heavily coated, slight sensitiveness to pressure in the epigastrium, slight gleety discharge from the urethra. Light percussion seemed to indicate the existence of a moderate gastrectasia. Under the supposition that there was a stenosed pylorus from an old ulcer at that site, with secondary dilatation, feeding by the mouth was stopped, and the patient was placed, beginning September 12th, upon deep rectal alimentation with peptonized milk, a mixture of meat pulp and sweetbread, and afterward of milk and whiskey. This was kept up for five days, during which time nothing was allowed to pass the patient's mouth except a few tablespoonfuls daily of an infusion of cundurango. There was a daily recurrence of pain, commencing usually after 1 P.M., gradually increasing in violence, and toward evening the patient would be found grinding his teeth and tossing restlessly from pain. He received daily an injection of morphine and atropine.

"On September 17th gradually increasing quantities of milk with lime-water or barley, by the mouth, were commenced, combined with rectal alimentation; later Mellin's food, sweetbread, and wine-jelly, and finally rectal alimentation was entirely withdrawn. The morphine injections were kept up in diminishing doses until October 3d. During a portion of this period the patient received varying quantities of tinct. belladonnæ, without marked benefit, though the amount taken was at no time sufficient to produce distinct physiological effects. A solution of bromide of soda was also tried, because of a growing conviction that the patient was suffering primarily from a neurosis of the stomach. On September 24th, the patient was given a test-meal of a French roll and a cup of tea without milk. On this occasion he was seen in consultation by Dr. Einhorn. The expressed stomach contents were found to contain an abundance of free HCl, an acidity of 160, being nearly three times the normal. On September 26th, galvanization with Einhorn's deglutable stomach electrode was commenced, strength of the current 14 milliampères. Daily sittings after that until October 26th; duration from fifteen to twenty minutes, strength from 13 to 29 milliampères. After the first week of galvanic treatment the injection of morphine was stopped entirely, the patient being nearly free from pain. Some of the credit for this result may possibly be due to a solution of cocaine and belladonna employed at the same time, but it is only fair to say that there was a continuance of the favorable condition under galvanization alone, the use of the anodyne mixture having been practically suspended. October 8th, 10th, and 12th, small hypodermics were again required. In view of this recurrence, a solution of atropine was ordered, and continued until October 21st. After October 26th galvanization was employed on alternate days only, namely, October 27th, 29th, and 31st, the patient feeling sufficiently convalescent to permit his walking to the sofa, and spending a few hours there, daily. The interval was then prolonged, no current being applied November 1st, 2d, and 3d. On the third, he began to have 'crampy' pains again, which culminated in an attack of vomiting at 7 P.M., and again at 1.35 A.M., November 4th, this time amounting to a pint and a half of mainly fluid material. In view of this episode of pain and vomiting (the latter being the first he had had since he had been under my observation), I determined to resume the treatment by galvanization, and the patient had sittings on the 4th, 5th, 6th, 7th, 8th, and 9th, which concluded this method of treatment, for the patient had attacks of vomiting November 9th—1 A.M., half pint; 3 A.M., one pint and a quarter; 8 A.M., one quart; 3 30 P.M., one pint and three-fourths, and required a morphine injection on the evening of the 9th. On the morning of November 10th daily lavage of the stomach was commenced, and on this occasion some bits of prunes were found in the wash-water that must have been in the stomach nearly forty-eight hours. On this date the patient received his last hypodermic. In addition to the daily lavage, he has been receiving Fowler's solution, and a solution of bromide of soda and chloral t.i.d. He is on a very liberal diet, is up the entire day, feeling well and anxious to go out and resume his ordinary routine.

"With reference to the employment of internal galvanization in this case, though it did not prove curative, it was, in my judgment, distinctly beneficial, in spite of the scepticism of the patient, who had had external galvanization without any improvement, before I had seen him, and was therefore rather averse to its application by this modified method. The introduction of the electrode into the stomach and its removal were always accomplished by the patient himself without the slightest difficulty or annoyance."

In reference to the therapeutic results of direct electrization of the stomach I might be allowed to give the following *résumé:*

Direct gastro-faradization proves to be useful in many ways in most chronic diseases of the stomach. The favorable results appear very clearly and pretty quickly in those cases of stomach dilatation which are not caused by any obstruction of the pylorus, but merely by the relaxation of the muscular coat of the stomach. Here the gastro-faradization is beneficial, no matter whether in these cases there is hyperacidity or subacidity of the stomach contents. Cases of relaxation of the cardia (eructations) and also of relaxation of the pylorus (presence of bile-secretion in the stomach) were very favorably influenced by faradization. Here the result was most markedly pronounced, inasmuch as, besides the subjective amelioration of the patient, the objective examination showed at the same time the absence of bile in the stomach-contents (there was, however, only one case of relaxation of the pylorus under observation).

Direct gastro-galvanization was administered with very good results in cases of obstinate gastralgia; several of them had resisted every therapeutic means, but yielded to the influence of galvanization.

120 East Sixty-fourth Street.

REPORT ON WOUNDS BY MANNLICHER BULLETS.

By E. R. STITT, M.D.,

Assistant Surgeon United States Navy.

The first opportunity for studying the effects produced by the projectile adopted within the last few years by the leading European nations, was in the recent Chilian civil war, after the battles of Concon and Placilla. About one half the Constitutional army were armed with the modern weapon of the type adopted by Austria, and popularly known as the "Mannlicher;" the remainder carried arms similar to those used in our army, which was also true of the supporters of Balmaceda. This explains why such a small proportion of the wounds was caused by the steel bullet.

For the benefit of those who have not made military surgery a special study, a description of the modern projectile is here given: The weight of the bullet is 243 grains, length 1.2 inch, diameter, 0.322 inch; it consists of a core of lead, hardened with five per cent. of antimony, encased in an envelope of steel 0.131 inch thick.

In Italy a projectile of smaller calibre and having a capsule of copper is used; the English bullet is very similar, but with a steel exterior; in fact almost every country, with the exception of our own, has changed its system of small-arms, adopting a rifle of small calibre.

Another weapon which we shall briefly consider, is that of France, the Lebel; in this the projectile is practically similar in size and shape to the Mannlicher, but is made up of hardened lead coated with nickel; it has not the thick resisting exterior possessed by the latter, and this probably explains the differences in the lesions produced.

The French Academy of Medicine made a series of experiments on twenty corpses, using the weapon and projectile adopted by that country; firing at the bodies at varying distances, and under different conditions. As a result of these trials it was reported: 1. That owing to the smallness of the apertures, the cure of the wounds would have been very difficult. 2. That at less than three hundred yards, the lesions were similar to those caused by the 43-calibre Gras bullet, except as regarded fractures, these occurring only when impact was tangential; otherwise the bone was simply pierced. 3. That the lead escaped in small points from the capsule, and these remaining in the wound, would complicate treatment.

Now, let us see to what extent these facts agree with those noted after observing the wounds produced in actual conflict, and whether their care and cure accord with the theories induced from the phenomena noted.

The cases observed in the Chilian hospitals divide themselves naturally into two classes: flesh wounds, and wounds complicated by bone lesions. As regards the first class, the wound of entrance is made smaller than the one caused by the lead bullet of greater calibre; it is perfectly round, without the slightest laceration of the margin; in some cases, owing to the thick layer of dirt with which many of the wounded were covered, it was almost impossible to locate it; in the wound of exit, the small size, as compared with that produced by ordinary projectile, is more noticeable; it is but slightly larger than the wound of entrance, also round, and with non-lacerated border (in three or four cases this did not pertain, fragments of bone having been forced through the opening). This is due to the fact that the projectile never loses its shape or splits up into two or more pieces on striking bone or some other hard substance. There was but one case reported where the capsule was stripped from the lead core, and this was supposed to have been caused by its striking a rifle before entering the body; invariably, when a bullet was cut out its former shape was unaltered. Owing to its smooth surface and consequent great mobility, the ball is easily found under the skin or fascia; yet, on cutting down upon it we find the object of our search to have disappeared; the method adopted to remove it was, after locating, to make an incision, cause the bullet to present at the opening, and seize it carefully with the forceps.

What a great difference when a lead bullet strikes a substance; then axial rotation is lost, and it plunges through the tissues, increasing size of track, as well as wound of exit; this never occurs with the steel bullet.

Authorities have taught that devitalization of tissue was proportionate to the velocity of the projectile, and that this was the reason for the slower healing of the wound entrance. That further inquiries as to the cause are necessary, is shown by the fact that in steel bullet wounds, although the condition of greater primary velocity exists, yet never is there appreciable difference between the time of healing of the wound of entrance and that of exit.

It seems more probable that the septic condition of the proximal portion of the channel made by the ball is the explanation. As bearing on this, we would note that foreign substances are most rarely introduced into the wound by the bullet under consideration, while with the other this is the case almost invariably; and it is certainly reasonable to suppose that the greater portion of the septic material would be deposited at or near the point of entrance. Non-introduction of foreign material is claimed for the steel-coated bullet, on account of the aseptic condition of the wounds, almost always healing by first intention where germs were not introduced by means of the probe; the probing of a simple flesh wound indicates morbid curiosity.

The most noticeable advantages the smaller projectile presents from a surgical standpoint, are in the wounds of the lung; in one case where the ball passed through the right lung, no other symptom was recorded than a slight hæmoptysis following the reception of the injury; careful auscultation twice daily failed to elicit the slightest inflammatory process, no elevation of temperature; the wound healed, and in a few days the patient was discharged from hospital. In several similar cases, some complicated by fracture, it was observed that even when inflammation

ensued it was limited, and probably secondary to pleurisy caused by the wound—a costal fracture.

It was the consensus of opinion that the untoward results attending abdominal wounds were practically identical, whether caused by lead or steel ball; it would appear, however, from the maintenance of axial rotation, the absence of change of form, and the aseptic condition of the track traversed, that the prognosis would be more favorable when the wound was produced by the latter.

Just as in wounds of other tissues, the results following the passage of a steel projectile, as compared with those produced by a lead one, differ more or less, according to the part of the body struck. So it is with lesions of bone; when it is a short or a flat bone the injury is much less serious; in the case of a long bone, however, the damage inflicted is practically the same, except when the ball passes through without fracturing.

With the exception of lung wounds, those of the short and flat bones best exhibit the humane attributes of the modern rifle. In several cases where the ball passed through the bones of the face, only slight deformity resulted; similar results were noted when the bones of the hand were involved; never more than one metacarpal bone fractured, and only slight laceration of overlying tendons; the wounds healing in one-half of the time required ordinarily; invariably motion was perfect after recovery. In the flat bones there was rarely any comminution; in the short ones, although present, it was slight, never presenting the appearance of having been struck by a hammer, as is frequently seen when a lead ball is the cause of the injury.

With long bones, unless the projectile simply passes through without fracturing, the immediate result differs but slightly from that produced by a lead bullet, and, strange to say, the length of bone comminuted is as a rule greater; the fragments, however, are less in number and larger in size; the probable cause for this is the wedge-like action of the steel ball; in a case observed, when resection of the humerus was necessitated on account of an extensive comminuted fracture, two fragments were removed which when put together showed a perfectly round opening, having the appearance of having been drilled; from this it would appear that in cases where the bullet does not pass entirely through, it first drills a hole, then loses in velocity; and as its momentum varies as square of velocity, so that is greatly reduced and a fracture is caused, the fracture being longitudinal rather than transverse in character.

Nothing so conclusively proves the superiority of the steel bullet as the fact that, on November 15th, all those wounded by the Mannlicher projectile had been sent out from the wards of St. Augustine Hospital (there were originally more than 2 000 cases in this institution), while there remained at least 300 of those wounded by rifles using lead bullets of 40 calibre or more.

Before concluding, it would be interesting to make mention of a singular coincidence, noted at the San Juan de Dios Hospital; here the cases had been admitted to wards without regard to any system of classification, yet on first visiting the wounded, two cases of gunshot wound of the elbow-joint were seen, lying in adjacent beds; one caused by a lead, the other by a steel bullet; the former produced such great disorganization of the joint that amputation was necessary, while in the latter case, although the course of the ball was identical, nothing more serious resulted than a moderate synovitis; rest and passive motion restoring function in a few days.

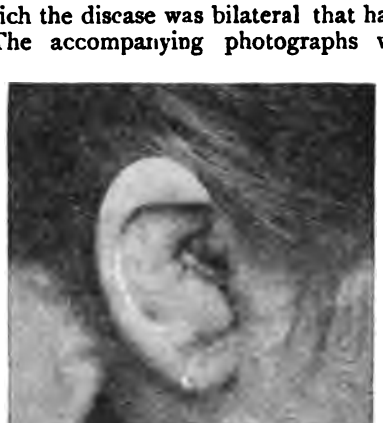
Chirography and Merit.—It is related of the late Sir Richard Quain, whose handwriting was execrable, that when a student he once went up for an examination, in which he confidently expected to take the prize. However, the medal was given to somebody else, and on inquiry it was found that his writing was so bad that the examiner had been able to read only one of the answers.

PERICHONDRITIS AURICULÆ AFFECTING BOTH EARS.

By THOMAS R. POOLEY, M.D.,

SURGEON-IN-CHIEF OF THE NEW AMSTERDAM EYE AND EAR HOSPITAL; PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC.

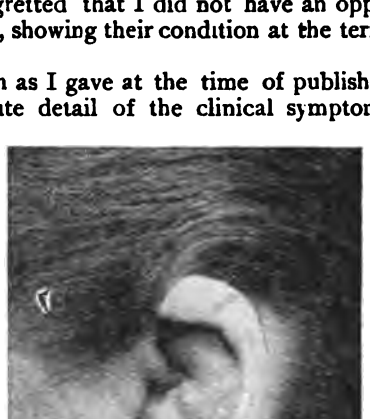
In the "Transactions of the Medical Society of the State of New York for 1881," and in the MEDICAL RECORD of March 19, 1881, I have reported a case of acute inflammation of the perichondrium of the auricle in which reference is made to the rarity of the disease, and the principal features which characterize it are set forth. I am now enabled to add another observation of this rare form of disease of the ear, in which both ears were almost simultaneously affected, and ran a parallel course. This is, so far as I have been able to ascertain, the only case in which the disease was bilateral that has been observed. The accompanying photographs were taken



Right Ear.

when the disease was about at its height in both ears, and show the appearances of the ears at that time. It is to be regretted that I did not have an opportunity to get another, showing their condition at the termination of the case.

Inasmuch as I gave at the time of publishing my last case a minute detail of the clinical symptoms and de-



Left Ear.

scription of the appearance of the ears, I shall now content myself with as brief an account of this one as possible, the chief interest of which lies in the symmetrical development in both auricles.

Mary G——, aged twenty-two, came under my care, July 30, 1891, suffering from otitis externa furunculosa of both ears. She was very poorly nourished, owing largely to the fact that her teeth were so defective that she could hardly masticate, and lived largely on slops. She was also anæmic to the last degree, and suffered from irregular and painful menstruation.

For a period of four weeks she attended my office for treatment, during which time she suffered greatly from diffuse swelling of the auditory canal and constantly recurring furunculi, which were opened and always gave issue to a bad-smelling, thin, watery pus. All the known local methods and the use of constitutional remedies, including the much-vaunted calcium sulphide, were of no avail in arresting the disease. I accordingly proposed to her to enter the hospital for a time, which she did on August 28th. At this time the meatus of the left ear was almost completely closed by swelling and furunculi. The right was in the same condition to a less degree, pain was severe in character, and she was worn out with suffering. There was considerable discharge from the canal of both ears from the incisions which had been made. Constant applications of heat were made by the use of spongiopilin wrung out of hot water, large doses of iron and quinine, generous diet of a fluid kind, and stimulants were given. There was a temporary relief of her suffering, but no diminution in the swelling; but, on the contrary, the concha of the left ear became much swollen and bulged outward, effacing its natural depression. The same extension of the inflammation to the concha began a day or two later in the right ear, and from this time on followed about the same course in both ears, except that throughout it was more severe in the left, but both showed the typical features of perichondritis. The swelling of the canal diminished, but from the concha the swelling successively invaded by slow extension the entire anterior surface of the auricle except the lobule, involving in turn the concha, helix, anti-helix, and the fossa helicis, in short, all the anterior surface except the lobule. The appearance of the ears at this time are accurately shown in the cuts. The character of the swelling was uneven—in some places diffuse, in others nodular. When it had reached its height on the anterior surface of the auricle, and had reached the helix, it began to encroach upon the posterior surface of the auricle, every part of which, except the lobule, in due time became affected. The swelling was of a dark red color, and boggy to the feel. There was an ill-defined sense of fluctuation, most marked on the posterior part of the auricle just above the lobule. At this point, which marked the maximum swelling in both ears, an incision was made, and these were the only ones made during the treatment except in the ear canals, giving vent to a small quantity of thin, glairy-looking matter, mixed with yellowish-white shreds; no blood escaped. A probe could be passed from this opening either along the anterior or posterior surface of the auricles to the helix. The cartilage was roughened, hard, and its perichondrium, which was readily detached, raised, together with the skin, on the probe.

September 10th.—Measurements of both ears were made as follows: Right ear, from superior border of helix to inferior border of lobule, 5 ctm.; from posterior border of helix to anterior border of tragus, 2.8 ctm. Left ear, in same dimensions, respectively, 5.6 ctm. and 3.1 ctm. The treatment consisted in the injection, once a day, through the openings made by the incisions, of solutions of bichloride and carbolic acid, and the almost constant use of heat and pressure. The appearance of the swelling, as it appeared in different parts of the ear, and the sense of fluctuation, tempted one to make incisions, but this was never done except at the sites referred to.

October 12th.—When last seen the inflammatory character of the disease had entirely subsided, the pain all gone, the general condition of the patient much improved, and only the usual deformity remained. This condition was almost exactly the same as is shown in Fig. 2 of my previous article (loc. cit.).

This case, like the others which I have seen, was of idiopathic origin; there was no history of trauma, and the occurrence of the disease on both sides at the same time would speak for its constitutional origin, and argue for its being due to some specific morbid process or germ, as would also the great amount of pain and constitutional disturbance. It seems to me that the same conditions which favor and produce an inflammation of the external auditory canal, if they be long continued, finally result in perichondritis, since all the cases I have yet observed, and those hitherto observed, begin as an external otitis.

In referring to the treatment in my former article I say: "It now seems to me to have been a mistake to have made so many incisions as I did. They were followed by no relief to the pain, nor did they in any way hasten the cure. It may be well to make an incision into the most dependent part of the swelling to gain access to the cavity. For the rest the cavity should be drained by a drainage-tube, and injected with some antiseptic solution, such as carbolic acid, and systematic pressure employed." Acting upon the experience obtained in this case, I only made an incision to gain access to the cavity, nor did I use a drainage-tube, which I should now consider as painful and unnecessary, as the opening made by the incision does not show any tendency to close if the wound be injected daily. The disease is, in my judgment, a self-limited one, which once begun will continue until every part of the cartilaginous structure of the ear is involved, and the simple plan of treatment, expectant in character, which is here recommended, is all that is indicated. Constitutional remedies, with tonics, and narcotics to relieve the pain, which is especially severe at night, are very useful. That a more energetic plan of treatment than I have recommended may diminish the degree of resultant deformity is not within the line of my experience and observation.

Progress of Medical Science.

Antiseptic Treatment of Ptyriasis Versicolor.—The pathogenic rôle of the *microsporon furfur* is secondary, the parasite developing only on the skin of dyspeptics affected with seborrhœa. Hence, there are two indications in the rational treatment of this affection.

General and Antidyspeptic Treatment.—1. Encourage intestinal evacuations by purgatives, salicylate of magnesia, castor-oil. 2. Associate intestinal antiseptics with these purgatives and with alkalies.

℞. Bicarbonate of soda,
Salol,
Magnesia.....āā 5 grammes.
Divide into fifteen powders and give one before each meal.

Local Antiseborrhæic and Parasiticide Treatment.—1. Each morning hot lotions and frictions with green soap, allowing the foam to dry on, and subsequent cleansing bath with plenty of water. 2. Every second day, sulphur baths followed by frictions with green soap, with the addition of naphthol or pumice-stone,

℞. Green soap..... 500 grammes.
Finely pulverized pumice-stone... 250 grammes.

3. Daily antiseptic inunction with the following mixture:

℞. Resorcin..... 5 to 10 grammes.
Ol. ricini..... 45 grammes.
Spt. vini rect..... 150 grammes.
Bals. Peru..... 0.50 centig.

or

℞. Acid. salicylic..... 2 to 3 grammes.
Sulph. precip..... 10 to 15 grammes.
Lanolin..... 70 grammes.
Vaseline..... 18 grammes.

Revue Gén. de. Clin. et de Thérap., No. 49, 1891.

The Medical Treatment of Appendicitis.—In a paper recently read at the Philadelphia County Medical Society, Dr. Kirkpatrick said: "I believe most cases of obstruction of the bowel, if not due to intussusception or strangulated hernia, are due to the absence of the natural secretion caused by the localized typhlitis, which, if not soon relieved, becomes a perityphlitis, and then more or less general peritonitis must result. The rational method

seems to me to be: 1. To relieve the pain by hypodermic injections. 2. To remove the cause or obstruction by causing, if necessary, pathological or excessive secretion, by giving some saline, which I believe is the best antiphlogistic for the inflamed bowel. 3. To soften the hardened fecal accumulation from below with enemata, solution of Epsom salts in water as hot as can be comfortably borne, to which I add turpentine and oil. The knee chest position, with copious enema, favors the distention of the colon up to the seat of the disease. I have found by experience that the enema to be effective must be given in this position, and that it must remain in the bowel for some time, and in several of my cases it was necessary to repeat the operation three or four times. This plan of treatment has been successful in six cases, which are all that I have treated; but I fully realize that it may fail in the seventh."

Typhoid in Infancy.—Dr. Jules Simon prescribes for the agitation in typhoid of infants:

℞. Hydrate chloral..... 0.50 ctgr.
Tinct. moschi..... gtt. xx.
Aq. tiliæ..... 80 grammes.
Syr. aurantii flor..... 20 grammes.

M. S.: To be taken during the twenty-four hours in dessert-spoonful doses.

—*Gaz. Méd. de Liège.*

Chloral in Pneumonia.—Dr. Balfour (*Edinburgh Medical Journal*, November, 1891) says it would not be easy to find another drug with a concatenation of properties so suitable for the treatment of pneumonia as those which chloral possesses. It slows the heart by paralyzing the cardiac ganglia, and it dilates the arterioles by paralyzing the vaso-motor centres. It is hypnotic, analgesic, and it diminishes and ultimately abolishes all the reflexes, while the antipyretic action is in the right direction. Besides soothing pain, stopping cough, and relieving insomnia, chloral really seems to shorten the duration of the disease or favor an early crisis. No chloral excepting Liebreich's is considered safe, and the author combines it with digitalis, giving for the first dose twenty grains of chloral in half an ounce of infusion; the subsequent dose being ten grains in half an ounce of infusion every four hours till the temperature falls to normal. Of course the dose is to vary with the patient's age.

Function of the Tonsils.—Dr. Gulland (*Edinburgh Medical Journal*, November, 1891), from a study of the interesting question relating to the use of the tonsils, draws the following conclusions: 1. The tonsils—faucial, lingual, and pharyngeal—are organs arranged to further the reproduction of leucocytes. 2. This reproduction takes place, mainly in the germ-centres, by mitotic division of pre-existing leucocytes. 3. The young leucocytes so formed are partly carried off to the general circulation by lymphatic vessels originating in the tonsil, partly remain in the tonsil as "stationary" cells, and partly wander out into the crypts by perforating the epithelium. 4. They thence pass to the surface of the tonsils, and take up foreign bodies, especially micro-organisms, which would otherwise pass the tonsils. 5. In the human subject the lingual and faucial tonsils, and the slight diffuse leucocyte infiltration of the under surface of the velum palati, form a protective ring or zone between the mouth, which abounds in microbes, and the rest of the alimentary tract; while the pharyngeal and tubal tonsils, and the diffuse leucocyte infiltration of the upper surface of the palate, form a protective ring round the upper part of the respiratory tract. 6. There is no reason to regard the tonsils as having any absorbent function in normal circumstances; the reproduction of leucocytes is sufficiently active, as a rule, to keep up a continuous outward stream of these cells, and to prevent the entry of foreign substances into the tonsils. 7. Under certain circumstances—for instance, in general debility—the reproduction of leucocytes may be interfered with, and the outward stream of these cells from the tonsils may be arrested. This arrest or other circumstances interfering with the activity of the leucocytes, may allow pathogenic organisms from the mouth, etc., to enter the tonsil by the spaces in the epithelium, and these microbes may give rise to a local or general infective process.

Bromo-potassic Stomatitis Cured by Chlorate of Potassium.—In the *Gazette des Hôpitaux*, December 31, 1891, Dr. E. Marandon reports two cases of stomatitis induced by bromide of potassium, analogous to mercurial stomatitis, in which a cure was effected by chlorate of potassium. Age, sex, season, temperament, apparently were not factors, for the patients differed widely in physique and original abnormity. One was a poorly nourished neurotic, recovering from depressive melancholia. The other, a strong, robust girl, was subject to attacks of epilepsy. Both had neuropathic ancestry, and both suffered from an exactly similar form of stomatitis. The dento-alveolar regions were most affected. About the lower teeth, which were excellent in both instances, the gums were particularly red, inflamed, sensitive, and bled easily. There was present the characteristic and constant fetid breath of bromide of potassium, a bitter, profuse silalorrhœa, which is rare. This condition of stomatitis is exceptional, and is due rather to reflex action than to direct poisoning. The observer inclines to the belief that the glands about the gums are the only ones in the mouth that eliminate bromide of potassium. The drug was stopped, chlorate of potassium given as in mercurial stomatitis, and the trouble disappeared in two weeks. In six days there was marked improvement.

Cutaneous Absorption.—As a result of some researches recently made by Guinard and Bouret (*Journal de Pharm. et de Chimie*, 1891) to determine the cutaneous absorption of medicinal substances incorporated in fatty bodies, the conclusion is reached that: 1. The intact skin does not absorb substances incorporated in fats, or, if it does absorb them, it does so only very slowly and in infinitesimal proportions, and only in hairy regions. 2. That the excipients axunge, vaseline, and lanoline present no differences, no advantages the one over the other so far as the penetration of a drug through the epidermis is concerned. Repeated experiments on frogs showed that strychnine in vaseline produced toxic effects and death more quickly than when incorporated with lanoline. Other laboratory experiments lead to the same result. The authors therefore conclude that, if a pomade is to be employed with the view of causing absorption of an active principle, the excipient to be preferred is vaseline. If, on the other hand, we desire a local action on an absorbent surface (denuded skin, ulcer, wounds, etc.), axunge will prove better, for this substance will maintain the drug longer where we want its action. A rapid and energetic local surface action, however, such as a parasiticide action, is best accomplished by vaseline.

New Reaction for Albumin.—Dr. Jolles gives, in the *Zeitschrift für Anal. Chem.*, No. 29, a new test for albumin, and a method of detecting minute quantities in the urine. Eight to ten cubic centimetres of urine are treated with an equal volume of concentrated hydrochloric acid. Then add carefully without shaking, by means of a pipette, two or three drops of a saturated solution of chloride of lime. At the limit of separation of the two fluids a white line is formed, even when as little albumin is present as 0.01 per cent. A better method for traces of albumin is that by acetic acid and ferrocyanide of potassium; even with this test, which shows as minute a trace as 0.0008 per cent., if bacteria are present the reaction is marked. It is well known that filtration does not render the urine clear under these circumstances. The result can be accomplished, however, by first shaking the urine with sand, but in this case the albumin may remain with the precipitate. In such event the precipitate is washed with hot caustic soda, neutralized, and treated as before.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ORIGIN AND UNCERTAINTY OF SPECIFICS.

IN the "Practical Manual of Diseases of Children," Dr. Edward Ellis calls the attention of his medical brethren to an elucidation of the apparent mysteries attending the trial of valuable drugs in diseases of certain names. Much vaunted as powerful to cure positively, these remedies too often fail in spite of statistics, proving that nothing can lie like figures except facts. The proposition enunciated by Dr. Ellis is this: A disease may exist, *per se*, originated in the healthy organism by some specific cause at present unknown, said to be cold, strain, atmospheric condition, etc., but the actual cause in reality a perfect mystery. A fine specimen of an acute type of disorder appears as pictured in the text-books and runs its respectable and time-honored course according to classic lines. This is a disease easily curable, for it tends to cure itself. Unless the physician interferes too much, the type of disease under consideration, whether pneumonia, acute rheumatism, or what not, under ordinarily favorable circumstances will resolve and get well. This furnishes a list of cases that vaunters of specifics exult over. Having looked on this picture, turn now to another.

There is a still more serious class of cases, far more common, and which bear similar names. They are the final outcome of widely divergent conditions, in which, by a mere accident, as cold, strain, weather, the actual attack is determined. The patient, perhaps, is long getting ill, is down in his physical luck, decidedly below par in various ways. This continues for a time, during which medical advice is seldom sought. Then some accident overthrows everything. This form of illness, no matter what its name, whether malaria, so-called, pneumonia, or acute rheumatism, is very rarely amenable to specific treatment. The vaunted remedies fail, and only a careful consideration of the patient as a unique entity, and not as the exponent of a class, will direct the physician to any kind of success. The origin and uncertainty of specifics are alike matters of chance in the majority of instances, and under circumstances wherein anything in reason would have hastened the cure. The advice of an experienced physician to his younger colleague, to the effect that new remedies must be avoided if he would succeed, contains more than the usual grain of wit and wisdom.

SHOULD LEPERS BE ISOLATED?

THAT it is sometimes necessary to sacrifice the individual for the sake of the community, when the interests of the two are in conflict, is one of the hard conditions of human society upon which its very existence depends. Yet society does not willingly sacrifice the individual, and is always jealous in protecting his rights as against itself. It shuts up the dangerous lunatic and the murderous criminal, and isolates those who are sick with actively contagious disease; yet it hesitates, sometimes too long, before pronouncing a lunatic dangerous, it gives the criminal every possible chance to escape the law's clutches, and it does not willingly stamp a disease contagious enough to demand the isolation of the sufferer from it. It is perhaps owing to this regard for individual rights that, in the matter of isolating the sick, society is often inconsistent. It separates from the community the sufferer from small-pox, or scarlatina, or typhus fever, but the syphilitic and the tuberculous it leaves free to spread contagion where they will. It is curious, indeed, that the community protects itself in this way only from acute diseases, and, either through ignorance of their infectious nature, or through reluctance to condemn the sufferer to long, perhaps life-long, separation from his kind, it takes no such precaution against chronic disease.

The only exception to this rule is in the case of leprosy, and this is one of the inconsistencies to which we have just referred. Even admitting that leprosy is a contagious disease, which has been denied by some eminent authorities, no one would class it in this respect with small-pox, yet the discovery of a single leper in a community like New York excites perhaps more alarm than does that of half a dozen cases of small-pox, as has been exemplified in this city within the past six months. This is doubtless due in great measure to the scriptural tradition of leprosy and the accounts there contained of its sudden onset, its malignancy, and the hopeless condition of its victims. It is, of course, known to the profession that there were several diseases of very different characters included under the biblical term leprosy, but the laity know only the name, and clothe the disease with all the horrors which are attributed to it in the Jewish chronicles.

And this leads to the question which heads these lines Should lepers be isolated? If the disease is certainly not contagious then it is a most cruel thing to cast out its victims from society. It is surely enough to suffer from a loathsome and practically, as yet, incurable disease without the additional horror of becoming an outcast, of being separated from all companionship with friends and relatives, and of being condemned to pass the remainder of a wretched life in the society of other miserable sufferers. Yet, on the other hand, if leprosy be contagious the community must protect itself by isolating the leprous. At present this is a moot question, and one concerning which much can be said on both sides. Many recognized authorities assert without reserve that it is contagious, and maintain that the only safety to the community lies in the prompt isolation of the sick from the well. Yet it is only a few weeks ago that so eminent a dermatologist as Dr. Bulkley, of this city, read a paper before the County Medical Society in which he held that the disease was

not contagious, or at most that the degree of contagiousness was extremely small. And these views were seemingly acquiesced in by those who discussed the paper. Nevertheless society cannot imperil itself on the strength of what is as yet only a theory, and although the event may prove that it has inflicted unnecessary hardship, we believe that it ought not to permit lepers to live where they come in daily contact with the well, at least not until the true cause of the disease has been discovered, or until it has been conclusively proven that it cannot be spread in this manner.

THE NEW HEALTH OFFICER.

THE appointment of Dr. William T. Jenkins as Health Officer of the Port of New York is an eminently fitting one and will give great satisfaction to the medical profession and the public. His previous record as a public officer in connection with the coroner's office, and his reputation as an able medical man are unquestioned, and carry with them the conviction that the duties of the new office will be ably, energetically, and conscientiously discharged. As a member of the Health Board of this city, Dr. Jenkins will also be an acquisition, and will bring to that position an official experience which will be of great service to the community. We congratulate him on the honor so worthily bestowed, and on behalf of his numerous professional friends wish him the highest measure of success.

THE RECENT POISONING CASE.

THE trial of medical student Carlyle W. Harris for poisoning his wife with morphine, which terminated during the past week in a verdict of murder in the first degree, has commanded more than the usual amount of public attention in consequence of the interesting questions involved in the medical jurisprudence of the case. The legal talent on both sides was displayed in a remarkably brilliant manner, and both Mr. Wellman for the prosecution, and Mr. Jerome for the defence, have won for themselves enviable positions in their profession. It was due to their successful efforts in working up their respective sides that many novel theories in regard to morphia-poisoning were brought forward for the consideration of the medical experts. As might have been anticipated it was not difficult to make these experts flatly contradict each other on essential points, and thus hopelessly muddle the unscientific brains of the jury. But this display of contradictory evidence was not without its lesson to the student of medical jurisprudence in emphasizing the necessity of impartial scientific commissions, whose functions should be advisory and explanatory to the court, as opposed to the custom of experts who are avowedly engaged to take one side or the other.

In commenting upon the case from a scientific point of view it is fair to say that the evidence clearly pointed to morphia as the cause of the victim's death, notwithstanding the able testimony to the contrary offered by gentlemen of acknowledged experience in pathology and the micro-chemistry of poisons. It was also plainly to be seen that pathological lesions, claimed to have been possible in the brain and kidneys, could not be demonstrated weeks after the burial, and when decomposition had commenced. Although a motive for the murder was demonstrated, the proof that the victim was given a dose by the prescriber sufficient to kill was purely presumptive and circumstantial. The quantity alleged to have been given was an ordinary dose of morphine at reasonable intervals. The theory that one or more of the capsules containing the mixture of quinine and morphine, as compounded by the pharmacist, was emptied by the defendant, afterward filled with morphine, and then administered to the victim, was not substantiated by any facts brought out by the prosecution. This was the only probability that could be entertained to make the necessary connecting link of cause and effect in constructing the strong and damaging chain of circumstantial evidence against the accused.

THERAPEUTICS OF CHLORANÆMIA.

THE gastro-intestinal troubles of chloranæmia, as dilatation of the stomach, ancholorhydria or hypercholorhydia, and habitual constipation, have long been recognized and treated more or less wisely, up to the present time, by means of general intestinal antisepsis and the systematic administration of purgatives. In Nothnagel's clinic in Vienna, Dr. Pick reports the best results are obtained by lavage of the stomach, fasting. In other cases where this procedure is refused, he suggests the use of creosote, one gramme to be mixed with six of sugar of milk. This is then divided into twenty powders, of which one is taken three times a day.

CREOSOTE IN INFLUENZA.

FRENCH journals recommend five-centigram pills of creosote in rhinitis and laryngitis due to grip. Twenty or thirty may be taken a day, as many as one hundred in six hours having been administered in a certain instance.

LOVE AND THE DOCTOR.

SOME very clever verses with this title appear in the *Journal d'Hygiène*, October 22, 1891, in which the similarities and differences of the merciless god and the modern physician are carefully summed up. Both are on duty day and night. "And this is a resemblance," together with the fact that each is blind. One is famous in old age, the other in youth. "And here is a difference." One feels the pulse, the other touches the heart. Each is something of a charlatan. "*Voilà la ressemblance!*" One leaves when we are doing well, and the other departs in time of stress. "*Voilà la différence!*"

A NEW INTESTINAL ANTISEPTIC.

MM. YVON AND BERLIOZ, writing on the above subject in the *Practitioner* of December, 1891, say: "For some time past practitioners have been using a combination of β-naphthol with salicylic acid, as a substitute for the former body. The combination is known as the salicylate of naphthol, or, briefly, betol, but its composition is not constant, and it does not meet all the therapeutic requirements of the cases in which it is employed. In cer-

tain cases where renal disease exists, the kidneys are injuriously affected by the elimination of the salicylic acid, due to the breaking up in the system of the salicylate."

The writers believed that they could make a safer combination by uniting beta-naphthol with benzoic acid, a drug which is less toxic than salicylic acid, less injurious to the kidneys, and a more powerful antiseptic.

The benzoate of naphthol, or benzo-naphthol, is a whitish powder without taste or smell, insoluble in water, and but slightly soluble in alcohol. When introduced into the alimentary canal it breaks up into beta-naphthol and benzoic acid. The conclusions drawn from a not very extensive use of the drug are:

1. That it is very slightly toxic.

2. Its antiseptic power is comparable with that of the other substances employed in promoting intestinal antisepsis.

3. It promotes diuresis, and diminishes the toxicity of the urine.

4. The portion of it which is absorbed is easily and rapidly eliminated by the kidneys.

5. The dosage may be rapidly raised for adults to 5 grammes (75 grains) a day, and for children to 2 grammes (30 grains) a day. It should be given in small quantities frequently repeated. A dose of about 25 to 50 centigrammes (4 to 8 grains) in wafer-paper, or suspended in a convenient vehicle (syrup and water, for example), suffices in the majority of cases.

Benzo-naphthol seems to possess all the characters of a good intestinal antiseptic. The gentlemen who recommend it, however, ignore the fact that the naphthol is to some extent absorbed and can cause toxic symptoms. We have had so many intestinal antiseptics from the laboratories of Paris, which have turned out to be of little value, that the profession is getting sceptical of new claimants, however strongly endorsed.

THE REGULATION OF MEDICAL PRACTICE IN WASHINGTON.

In the *Virginia Medical Monthly* for December, 1891, Dr. Robert T. Edes discusses the subject of "The Regulation of Medicine in the District of Columbia," and gives the text of two bills which have been introduced into Congress for the purpose in question. Each of the bills provides for the appointment of a Board of Medical Examiners, and it is with regard to this point that, as usual, trouble arises. The District Medical Society's bill provides for a board of nine physicians, five nominated by the Society, two by the Homœopathic Medical Society, and two appointed "at large." The other bill provides for a board of fifteen, of whom eight are to be regular physicians, five homœopathic, and two eclectic.

The curious part of this feature is that, as a matter of fact, there are in Washington 444 regular physicians, 36 homœopathics, and 2 eclectics, giving a proportion of 222, 18, and 1, or 13, 1, and $\frac{1}{18}$.

This bill is another illustration of the well-known fact that "schools" of medicine now keep up organization chiefly for what there is in it, not because they embody scientific truths.

Sir Richard Quain's wife has recently died from shock following an operation.

THE HEALTH OF THE SURVIVORS OF THE WAR.

A recent article in *The Forum* on the health of the survivors of the war, by Dr. John S. Billings, contains some facts of interest.

The total number of soldiers enlisted in the United States Army was about 2,100,000. During and since the war one million have died. The death-rate during the war was about eighty-eight per thousand. Fifty-five in a thousand died of disease, thirty-three of injury. Since the war the annual death-rate has been about fourteen per thousand, which is a little above the average for adult males. Deaths occurred pretty rapidly for a few years after the war, but after that the per cent. fell. At present, the investigations as to the health of the survivors of the war show that the sick-rate is about four times greater than it is among the ordinary population. This is not surprising, unless the comparison be made between the health of the veterans and that of the adult male population over fifty years of age, for the great majority of war veterans must have passed that age.

News of the Week.

A Census of Hallucinations.—The New York branch of the American Society for Psychical Research will be addressed by Professor William James, of Harvard University, on the evening of February 10th, at 8 P.M., at Room No. 10, Columbia College (Law Buildings), on the subject of "A Census of Hallucinations," and also Dr. Hodgson, Secretary of the American Society, on "Automatic Writing." Admission will be free, but by ticket only. Tickets may be obtained on application to the Vice-President and Secretary of the New York branch, Dr. James H. Hyslop.

New York County Medical Association.—At the annual meeting of this Association, held January 18, 1892, the following officers were elected: *President*, S. B. Wylie McLeod, M.D.; *Vice-President*, William T. White, M.D.; *Recording Secretary*, P. Brynberg Porter, M.D.; *Corresponding and Statistical Secretary*, Augustus D. Ruggles, M.D.; *Treasurer*, John H. Hinton, M.D.; *Member of the Executive Committee*, Beverhout Thompson, M.D. The Association now has more than seven hundred members on its roll.

The Cincinnati Obstetrical Society, at its annual meeting, elected the following officers for the ensuing year: *President*, Dr. Byron Stanton; *Vice-President*, Dr. Gustav Zinke; *Secretary*, Dr. E. S. McKee; *Corresponding Secretary*, Dr. C. A. L. Reed; *Treasurer and Librarian*, Dr. George E. Jones. On motion of Dr. Giles Mitchell, the Society declined to banquet on the evening of January 28th. The next regular meeting will be held at the residence of the retiring President, Dr. E. W. Mitchell.

Movable Kidney.—Dr. A. MacSwain, formerly of Riverside, now of Santa Clara, Cal., was operated on for a movable kidney by Dr. C. O. Baker, of Auburn, N. Y., on January 18th. The operation promises a perfect result, and will be fully reported later on, as it is one of more than usual interest.

Dr. John W. Dowling, a well-known homœopathic physician of this city, died recently.

Dr. Charles Martin, Medical Director, United States Navy, died at his home in this city on January 14th. Dr. Martin, after thirty-six years of long and active service, was retired in 1884.

Censorship of Medical Journalism in Russia.—The Society of Physicians of Odessa applied for permission to publish a medical journal "without previous revision by the Censor," but the Minister of the Interior having declined to sanction the publication, the Censor must pass upon the merits of the manuscript before it goes to press.

The Alkaloid of Lactuca Sativa.—It has long been believed that the common lettuce contained an alkaloid, since attention has often been directed to its mydriatic action on the eye of those who indulge somewhat inordinately in lettuce salads. The students of the Research Laboratory of the Pharmaceutical Society have at length succeeded in eliminating the alkaloid in the form of flat needle crystals, closely resembling those of hyoscyamine. Both the wild and garden varieties of lettuce yield the same alkaloid, and it is found in somewhat larger quantities when the plant is in flower, 0.02 per cent. So small a percentage is, however, of no great importance in connection with the use of the plant as a vegetable, since it is always brought to the table in the early stage of its growth, and rarely or never when the plant is about to flower.—*Medical Press.*

Dr. W. H. Hingston, of Montreal, has been appointed to deliver the address on Surgery at the next annual meeting of the British Medical Association, to be held in Nottingham.

Opening of a Hospital in Bokhara.—On the Czar's name-day in Bokhara the first public hospital, a gift from the Amir in commemoration of the escape of the Czarewitch in Japan, was opened with great ceremony in the presence of the Russian diplomatic agent, the Russian colony, and the representatives of the vassal Ruler of the Khanate.

Association of Acting Assistant Surgeons of the U. S. Army.—We are sorry to see the letter-head of this organization and the signature of its Recorder made use of as a display advertisement of a porous plaster in the daily papers.

The North London Medical and Chirurgical Society was established about two months ago, with a membership of one hundred and fifty.

A New Leper Hospital in Russia.—According to the *British Medical Journal*, the first leper house in the Baltic provinces in Russia was recently opened at Riga. It is intended provisionally to accommodate twenty men and as many women. The medical and administrative staff live in a separate building, and to lessen the risk of infection the attendants live as far as possible apart from the patients. Dr. A. Reisner is the medical officer in charge, and the institution is under the general supervision of Dr. A. Bergmann, to whose initiative and persevering efforts its establishment is principally due.

Hypnotism in Belgium.—The Belgian Parliament has recently passed a law restricting the practice of hypnotism, and forbidding the public exhibition of any hypnotized person. The punishment for exhibiting any hypnotized individual is imprisonment for from two weeks to six months, and a fine of from 20 francs to 1,000 francs. No one, not a physician, is permitted to hypnotize any minor or person of unsound mind, the penalty for so doing, even when the person is not exhibited, being a fine of from 20 francs to 1,000 francs. It also punishes with imprisonment any person who, with the intention of cheating or otherwise injuring, causes a hypnotized individual to sign a paper containing a contract, disposition, obligation, release, or declaration of intention. The person deriving benefit from such a paper is liable also to the same penalty.

A New Foundation for a Hospital in Odessa.—A Mme. Wallich, who died not long ago in Nice, has bequeathed about $60,000 to the municipality of Odessa for the purpose of erecting a new hospital in that city.

Railway Casualties.—The total number of persons reported killed on the railroads of the United States during the year ending June 30, 1890, was 6,334, of whom 2,451 were employees, 286 were passengers, and 3.597 were classed as "other persons," including tramps stealing rides, persons run over, and suicides. The total number reported injured was 29,025, of whom 22,394 were employees, 2,425 were passengers, and 4,206 were unclassified. Fewer passengers, but more employees, suffered casualties than in the previous year.

Increasing the Tax on Cigarettes.—One of the methods which have been proposed to restrict the sale of cigarettes to boys is to levy an increased tax under the internal revenue laws. The tax is now only fifty cents a thousand, and if this were raised to $8 a thousand, the cost of the cheapest cigarettes would be doubled. The sale would in consequence be so restricted that the manufacturers would probably find it unprofitable to make any but the finest grades, and the high price of these would put them way above the reach of most boys. The law forbidding the sale of cigarettes to children under sixteen years of age, is disregarded and worse than ineffectual, as all laws are that are not enforced.

New York State Commission in Lunacy.—The following are some of the orders recently adopted by this body, relating to the reception of pay patients in the State hospitals for the insane, to the employment of physicians in licensed institutions for the treatment of the insane, and to the admission of voluntary patients in those institutions which are permitted to receive them as well as committed patients. That no license will hereafter be granted to operate and maintain an institution for the care, custody, or treatment of the insane, unless such institution shall be constantly in charge of a well-educated resident physician (to be designated "Physician in Charge"), who must be a graduate of a legally incorporated medical college and must have had at least five years' actual service as a physician in an institution for the care and treatment of the insane. In existing institutions this order will in all future appointments be held to apply. That hereafter the approval of the Commission in writing will be required upon the appointment of all assistant physicians in licensed institutions for the care, custody, or treatment of the insane. In existing institu-

tions this order will in all future appointments be held to apply. That no voluntary patient shall be admitted to a licensed institution for the care, custody, or treatment of the insane permitted to receive voluntary as well as committed patients, whose mind is so impaired as to render him incapable of forming a rational judgment as to the disposition of his person, or whose will is so weak as to render him incapable of resisting undue influence, nor unless an application for admission is made in the form prescribed by the Commission. That all persons committed to any institution for the care, custody, or treatment of the insane must, at the time of admission, be informed by the receiving medical officer of the character of the institution and the cause of detention.

Influenza in London.—The influenza continues to spread, and the mortality from it is on the increase. During last week two hundred and seventy-one deaths were registered as primarily due to it, and in sixty-three cases it was registered as a complication occurring in the course of some other disease. As in the previous epidemics, the mortality is highest among elderly persons. Many fatal cases have, however, occurred among the young, and at Oxford, where the disease is very prevalent at present, the university authorities are so impressed with the gravity of the situation that they have postponed the commencement of Lent term until the end of the first week in February. Concurrently with an increase in the mortality from influenza has been a rise in the death-rate from respiratory diseases in general, and in London last week no fewer than 1,248 deaths were registered as due to diseases of the respiratory organs, being nearly double the average. High death-rates have also prevailed in several of the provincial towns.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons for 1892 will be delivered at the New York Academy of Medicine, No. 17 West Forty-third Street, February 12th, 19th, and 26th, at 8 P. M., by Professor Henry F. Osborn, of Columbia College. Subject: Present Problems in Evolution and Heredity. 1. The Contemporary Evolution of Man. 2. The Difficulties in the Heredity Theory. 3. Recent Studies upon the Germ-cells. The profession is invited to be present.

What Must They Use?—It is said that down in Kentucky the physicians treat the grip as if it were a severe case of snake-bite.

State Mortality Statistics.—The State Board of Health, on February 1st, issued the monthly mortality bulletin for the month of December, and also a summary of the mortality statistics for the year ending January 1, 1892. The former shows the total number of deaths for the month of December, 11,241, of which the greatest number was caused by acute respiratory disease, which number was 2,731; lowest, cerebro-spinal fever, 32. Of the total, 3,023 were under five years of age. The average for the past six years has been 8.992. The greatest per cent. per 1,000 inhabitants was at Courtland, where it reached 44.64 per cent., and Cohoes second, where it was 38.91 per cent. The summary for the year shows the following: Number of deaths in each of the twelve months: January, 9,548; February, 8,704; March, 10,672; April, 13,931; May, 10,213; June, 9,321; July, 11,370; August, 10,720; September, 9,662; October, 9,718; November, 8,878; December, 11,241. They occurred in the eight districts as follows: Maritime, 74,681; Hudson Valley, 12,209; Adirondack and North, 4,131; Mohawk Valley, 5,978; Southern tier, 4,648; East Central, 5,113; West Central, 4,040; Lake Ontario and Western, 12,928.

Dr. Albert T. Weston has been appointed Coroner Levy's assistant, vice Dr. W. T. Jenkins, resigned. Dr. Weston was Coroner Shultze's physician until January 1st, when Dr. Walsh, the present incumbent, succeeded him.

Death of Dr. David Fleischman.—Dr. David Fleischman died at Albany, N. Y., January 30, 1892. He was born March 12, 1859. Graduated with prizes and honors from Yale College in 1879 and from Albany Medical College in 1881. Pursued post-graduate course in New York, at Post-graduate School, and under Bosworth and Jarvis, and followed the practice of specialty of Laryngology and Rhinology in Albany since 1883. He was esteemed by the entire profession in his vicinity for his ability and exceeding modesty, commanded the respect of everyone, and was the idol of his patients. He was a type of the true physician. A year ago a severe attack of "la grippe" paved the way for pleurisy, which in turn was followed by a fatal attack of tubercular meningitis.

Obituary.

SIR MORELL MACKENZIE, M.D.,

LONDON, ENGLAND.

THE cable announces the death of Sir Morell Mackenzie, M.D., which took place in London on the evening of February 3d. He was born in Leytonstone, Essex, in 1837, and was educated at the London Hospital Medical College and the Paris and Vienna universities. He founded the Hospital for Diseases of the Throat, in London, in 1863, and at about the same time obtained the Jacksonian prize from the Royal College of Surgeons for his essay on diseases of the larynx. Somewhat later he was elected assistant physician to the London Hospital, at which he subsequently became full physician and lecturer on diseases of the throat. He was a corresponding member of the Imperial Royal Society of Physicians of Vienna, and of the Medical Society of Prague, and an honorary fellow of the American Laryngological Association. He was the author of numerous smaller works on laryngological subjects, of monographs on diphtheria and hay fever, and of a standard book in two volumes on "Diseases of the Nose and Throat." Dr. Morell Mackenzie was knighted in 1888 as a reward for his attendance upon the Crown Prince of Germany during that distinguished patient's long and eventful illness. As usual under such circumstances, when so much was at stake as to royal succession, depending upon the question as to whether or not the disease was necessarily fatal, the physician in charge became involved in an international court intrigue, which for a time imperilled his fair fame as a scientist and honorable gentleman. He, however, conducted himself with great prudence and discretion, and returned to his home honored by his sovereign and respected by his many friends. Soon after his return to London his health began to fail, a cough developed, and progressive tuberculous disease of the lungs finally caused his death. Shortly after he had been knighted Sir Morell Mackenzie published his defence in a book entitled "The Fatal Illness of Frederick the Noble."

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-sixth Annual Meeting, held at Albany, February 2, 3, and 4, 1892.

A. WALTER SUITER, M.D., PRESIDENT.

FIRST DAY, TUESDAY, FEBRUARY 2D.

President's Inaugural Address.—The President took a hopeful view of the progress of medical science. Referring to codes of ethics, he expressed the view that they would soon be things of the past, unworthy a place in these days of advanced and rapidly advancing civilization. The dawning of a better and brighter day was at hand.

The Address then discussed points concerning the volume of Transactions, and then passed to a review of facts brought out by State Medical Examining Boards, regarding the number of medical colleges in this country and Canada, the increasing number extending their courses, etc.; while the three boards of examiners in New York had worked harmoniously, yet the present indications pointed to the advantage and likelihood of their consolidation into one board.

He favored action by the Society requesting of the Legislature increased appropriation for the State Medical Library.

Reference was also made to the Pan-American Medical Congress to be held at Washington, 1893.

He said the suggestion had been made that retired surgeons of the United States Army, past Major, all be made honorary members.

The President also called attention to the well-known abuse of medical charity at hospitals and dispensaries.

The deaths of honorary and permanent members during the year had been unusually large.

A committee of three was appointed to report on the recommendations contained in the Address.

On motion of Dr. Roosa a specialty committee of five, to be appointed by the President, was empowered to name at least four persons, from whom the Society should select two, to act, by appointment of the Board of Regents, on the State Board of Medical Examiners. This motion received some opposition by those who wished the nominations to be made by the regular Nominating Committee.

A Plea for the Methodical Treatment of Chronic Diseases.—DR. SIMON BARUCH read in abstract a paper on this subject, taking as illustrative diseases phthisis, gout, rheumatism, gastric ulcer, and diabetes. He wished to impress, as the title of the paper indicated, the desirability of methodical treatment in chronic cases, which modern science had taught us to apply with so great advantage in acute diseases. In acute diseases we had found that, as a rule, best results were obtained from methodical management. A general panacea was no longer sought. There was no doubt but what phthisis could be cured, and its cure did not depend upon attitude, climate, etc., but upon systematic out-of-door life in an atmosphere free from dust and injurious substances. Yet, as long as active inflammation existed the lungs should be kept at rest. The methodical treatment also involved the judicious use of the bath, of diet, etc. The same remarks applied to other chronic diseases.

Until we should come to dose our exercise, etc., the same as we did our medicines, and see that the prescription was followed to the letter, we would not get precision in our results. Referring to a work by Dr. Weir Mitchell, he said this eminent scientist had immortalized himself by simply applying principles which the reader was then urging upon our attention in other diseases, namely, a more methodical application of our remedial measures, chiefly dietetic, hygienic, and psychic.

DR. J. LEONARD CORNING applied the principles laid down by Dr. Baruch in many cases of nervous exhaustion. It required discrimination in applying enforced rest in bed in nervous cases, or the so-called Weir-Mitchell treatment, for he had known persons made much worse by it, indeed driven almost to insanity. Greater benefit, as a rule, was obtained by an extra number of hours of sleep.

DR. RANSOM, DR. BULKLEY, and others emphasized the value of methodical treatment in chronic cases. Dr. Bulkley had kept notes regularly of chronic cases, as he did of acute ones, which he regarded as the only possible way to keep track of the progress of chronic diseases, and thereby enable him to apply his remedial agents intelligently and effectually.

A Case of Pneumo hydrothorax.—DR. EUGENE BEACH read the history of the case, which occurred in a patient who had lesions of phthisis. Replying to the statements of Dr. Flood, made during the discussion, that almost invariably the fluid in the pleural cavity in cases of pneumo-thorax was purulent instead of serous, he said no autopsy was made in this case, nor was any of the fluid withdrawn, yet the physical signs pointed clearly to the presence of air and fluid, and there had been, two months prior to the bulging of the chest, no temperature pointing to empyema.

DR. RALPH WALDO had seen a case of pneumo-hydrothorax when interne in Charity Hospital. Serum was aspirated. But at autopsy it was found to have become purulent, owing, he thought, to the puncture.

Perforation of Typhoid Ulcer with Adhesive and Protective Peritonitis.—DR. H. L. ELSNER, of Syracuse, described the case, which occurred in a man who entered the hospital probably at the second week of "walking typhoid." The treatment was expectant. After about two days the symptoms suddenly changed, becoming those of intestinal perforation. The absence of McBurney's point, taken with the history, appendicitis was excluded. The local symptoms were those of tympanites below, dulness over the liver, apparent tumor, pain over this tumor.

The patient had considerably improved within a few days, and could be exhibited before the class. On the tenth day there was again a sudden change, the patient had several bloody fecal discharges, and died. The autopsy showed slight adhesion of a coil of the ileum to the colon, which, when turned over, allowed the escape of gas. An opening was then seen, two millimetres long, at the seat of a typhoid ulcer. Most of the adhesive inflammation was in this locality, and with an adhesive band contributed to the tumor. Intestinal contents had not escaped.

His conclusions were: 1, a local peritonitis might shut off the perforation; 2, in some cases coils of intestine might become adherent and form an apparent tumor; 3, appendicitis might be closely simulated; 4, liver dulness was to be accounted for by gas being confined below a line of adhesions; 5, an operation was not desirable where a protective process was evident.

DR. A. JACOBI drew from the case a practical lesson, namely, in all cases of typhoid fever and intestinal catarrh, avoid a chronic condition by active treatment as opposed to the expectant, which too often meant entire neglect of the case. As a result of such neglect, perforation was liable to take place at some future time in the weakened point left by the inflammation.

DR. CHEESMAN related a case of typhoid in a child, followed by gangrene of the umbilicus, and one in a man, followed by several attacks of orchitis.

A Pathological Review of Diphtheria, with Special Reference to a New Method of Treatment.—DR. F. E. MARTINDALE, of Port Richmond, in this paper worked his way up to the view that the profession had a sure cure for diphtheria in an atmosphere containing the vapors of tar and turpentine, if treatment were begun before the disease had become constitutional. He had

within three years treated 24 cases, losing but 1, which he saw in consultation on the fifth day after the development of severe constitutional symptoms. He regarded the disease as of microbic origin.

Asepsis and Antisepsis in Obstetric Practice.—Dr. George Seymour in this paper advocated the principles of asepsis, and also of antisepsis, with a view to securing as nearly as possible absolute cleanliness in all cases of labor. Unfortunately, fifty per cent. of women were attended in their confinements by midwives, who, of course, did not apply the principle becoming so generally appreciated by medical men. The author gave details as to furniture in the room, cleansing of person and instruments, use of bichloride or creolin solution as antiseptics in washing hands, vulva, etc.

Dr. Currier thought that in private practice it would be difficult among the poor to establish very nearly the conditions of the laparotomy room as advocated by the author, and among the wealthy who were cleanly in their habits it was not so necessary.

Dr. Baruch called attention to Leopold's present practice of allowing no vaginal examination in uncomplicated cases.

Peculiar Case of Chronic Ascending Anterior Poliomyelitis.—Dr. C. E. Lockwood, of New York, read the history of the case. The symptoms for some time were limited to the distribution of the anterior tibial nerve; began after slight traumatism; was regarded at first by Dr. Hamilton and Dr. Starr as a peripheral neuritis, then passed to other parts, involving muscles of both legs and upper extremities; finally, after two years, terminated in death by involving the respiratory centre in the medulla oblongata. The reaction to galvanism further made the case resemble the peroneal type of progressive muscular atrophy, as described by Charcot and others. The microscopic examination of the cord confirmed the diagnosis indicated by the title.

Dr. A. Jacobi advocated more heroic use of sulphate of strychnia, and administered it hypodermically. He had given as much as one-fifth grain in this manner in the case of a man.

Dr. Corning and Dr. Fisher had seen cases clinically the same as the one narrated. Dr. Corning thought galvanism, supposed to be administered to the cord, had in some cases proven more than useless; it had even aggravated the condition.

Report of Committee on Legislation.—Dr. Roosa read the report. It asked the Society to continue to express its disapproval of attempts to change the present medical examiners' bill. It seemed some students of regular medical colleges were seeking its repeal in order that it might not compel them to undergo an extra examination. A hearing was to be heard on Thursday next by a Senate committee on a proposed bill affecting the Medical Examining Board, and the committee requested that twelve members be appointed to appear and defend the present law. The report and recommendations were adopted.

Mineral Waters in the Treatment of Disease.—Dr. Charles C. Ransom read the paper, describing the treatment of disease by mineral waters of Richfield Springs. It was an attempt to carefully note all the influences which might affect the case, and to analyze the benefit due to the action of the waters themselves. He hoped similar carefully kept records would soon be found in the use of waters at other springs, which would enable us to make comparisons. It was necessary in these observations to consider the influence of change of climate, environment, chemical composition of the waters, method of application, dietetic and hygienic care, etc. The author had time only to read that portion of the paper describing the waters at Richfield Springs and their manner of usual application. The chief remedial quality was sulphuretted hydrogen, and was mostly used in the form of bath, and internally.

Treatment of Endometritis.—Dr. Ralph Waldo, of New York, in this paper divided cases of endometritis, for convenience of treatment, into four classes: 1, cases in which the inflammation was confined to the mucous membrane of the cervix; 2, where confined to the mucous membrane of the body, or including that of both cervix and body; 3, the acute form; 4, the chronic. The treatment differed in the different cases, but one fact emphasized was the advantage of drainage. He objected to escharotics, as nitric acid, etc. He also condemned dilatation by tents. In chronic cases he would dilate, curette, wash out the uterus, introduce a drainage-tube (Cleveland's) or iodoform gauze.

There was considerable discussion on this paper.

Amputation of the Vaginal Portion of the Cervix Uteri in Cases of Suspected Carcinoma.—Dr. Andrew F. Currier read a paper with this title. Amputation in these cases was suggested because of the inconclusive information derived from scraping the endometrium, or even from removal of small pieces of the cervix. Of course, an early diagnosis must be made if one would have success in the surgical treatment of cervical cancer. Among conditions rendering early diagnosis difficult were, endometritis with or without hemorrhage from the interior of the uterus, hyperplasia with or without fissure of the os, or endometritis, erosions, ulcerations, and glandular disease. In many of these cases excision was not necessary to complete the diagnosis. Also stimulating and astringent applications should in some cases be tried before resorting to excision to establish the diagnosis. These applications, however, might sometimes prove injurious by increasing the rapidity of the growth and developing a malignant character. While amputation was made for diagnostic purposes, yet incidentally it sometimes cured cancer when this really existed.

Notes on Rare Cases of Skin Disease.—Dr. G. H. Fox gave pictures of several rare cases of skin disease. One was of urticarial eruption in a young man, which could be brought out by the slightest scratch on the skin. The wheals came out in about two minutes after the scratch or light blow, lasted about fifteen minutes, and caused much irritation. It lasted longer when brought out by indigestion or bodily condition. Six months' treatment had not essentially changed the peculiar susceptibility.

Another rare case was one of multiform erythema, apparently due to taking copaiba.

The third case was one of unilateral lentiginous spots which went up to the median line, but there stopped. It was the only case of pigmentation of the skin which remained unilateral.

The fourth case was one of double lumbar zoster, which disappeared after seven weeks without syphilitic treatment, proving the error of some of the New York dermatologists who had suspected syphilis.

The fifth was a case of mycosis fungoides multiplex, and the sixth one of multiple sarcoma.

Open Incision for Talipes Varo-equinus.—Dr. A. M. Phelps, of New York, presented this paper as supplementary of several which he had read on former occasions. He operated upon his first case by this method about thirteen years ago, and in spite of the absence of mortality, and the excellent results following open incision of the contracted soft parts in succession, as might be necessary, and subsequent over-correction of the talipes, surgeons continued to do osteotomy in the first instance, and also to have a considerable percentage of deaths. His method was safe, effectual, and left no sensitive scar, no flat foot, no considerable atrophy of the muscles, or other unfavorable condition, as some had seemed to fear it would. His cases were nearly two hundred.

Primary Cancer of the Liver with Biliary and Renal Calculi.—Dr. W. D. Garlock, of Little Falls, related the case. It occurred in a woman who refused operative interference for suffering attributable to a tumor at the site of the gall-bladder. Her death revealed 150

stones in the gall-bladder, and 50 in the pelvis of the kidney, also multiple nodular cancer of the liver. Cancer nowhere else was found, although examination of all the organs was not permitted. The author theorized some upon the etiological relation between the calculi and the cancer.

Pain, its Nature, Diagnosis, Significance, and Treatment.—Dr. J. Leonard Corning, of New York, read a part of his paper, reviewing our limited knowledge of the paths of pain in the cord, their passage presumably to the posterior portion of the cerebrum, and then mentioned a point in treatment. By use of a double-barrelled hypodermic syringe two fluids could be injected through the same needle before its extraction. He used oil of theobroma for deadening pain by local injection, precipitating it in the skin by means of cold, ceasing the cold when its transportation into the system was desired.

The Mental Derangements Observed in Multiple Neuritis, especially those of Alcoholic Origin.—Dr. E. D. Fischer, of New York, read the paper. The important mental symptoms were, complete loss of knowledge of commencement of the illness and of its course; while they could tell accurately events which had transpired before their illness, they lost all memory of time and place afterward. There might be the usual peripheral lesions seen in cases without special mental symptoms. He had had one case come to autopsy, that of a woman, aged thirty-six years, who gave a history of alcoholism. The brain seemed to show cell change in the cortex, especially in the pyramidal layer. The vessels were congested, and there was increase of the connective tissue. The case was of short duration, which might account for the apparently slight pathological changes. There were peripheral symptoms in this case, manifest in the arms, in the nerves of which slight changes were also found. Besides the mental symptoms mentioned there might be illusions and hallucinations.

Nasal Catarrh in Children: Importance of Early Treatment.—Dr. John O. Roe, of Rochester, read a contribution to this subject. Toward the conclusion he said, every condition of the nasal passages which produced an obstruction or caused contact between parts normally separate, manifested by a discharge, should be corrected. Any associated dyscrasia or debility of the system should also receive careful attention. Failure to give attention to catarrhal conditions in children often led to most serious consequences, relating to respiratory disorders or permanent deafness.

Fibroids of the Naso-pharynx and their Treatment by Means of the Electro-cautery.—Dr. D. H. Goodwillie, of New York, described a few of those rare cases of fibroids of the naso-pharynx which had come under his observation, and exhibited several instruments of his own device for their treatment by electro-cautery.

Evening Session.

Early High Amputation in Senile Gangrene.—Dr. C. A. Powers, of New York, read the history of one case of senile gangrene of the foot, due to arterio-sclerosis, in which he had performed amputation of the thigh in the first instance instead of below the knee, as had until recently been almost the uniform custom. His patient died of a double pneumonia, but the wound was in good condition. The object of early high amputation was to avoid the development of gangrene in the flaps. Early high amputation was first seriously considered by Jonathan Hutchinson. It had been practised in about twenty-five cases by Küster, and a number of times by other German surgeons. It should also be resorted to in gangrene due to diabetes.

The opinion was coincided in by Dr. Powers, and by Dr. Mynter and Dr. Willy Meyer, who took part in the discussion, that as long as the gangrene was confined to the toes it might not necessitate amputation of the limb. The foot should be kept elevated; when it extended to the dorsum of the foot, amputation should at once be performed about the middle of the thigh.

Note on Lacerations of the Cervix Uteri.—Dr. Grailly Hewitt, of London, sent the brief paper in reply to some information asked by Dr. Chase, of Brooklyn, who read it. The symptoms following lacerations were considered largely due to disturbance of the blood and lymph circulation. When the parts became inflamed from irritation, so-called ulceration developed; with hypertrophy eversion might take place. Cicatrization with pressure upon the nerves would account for much of the pain. In regard to the influence of such injuries in the causation of cancer, he thought cancer occurred oftener in women not virgins, and still oftener in those who had lacerations. Yet he had seen none in which the cancer could indubitably be attributed to the laceration.

Nephrotomy for the Cure of Sudden Total Suppression of Urine Occurring some Time after Nephrectomy.—A paper was read under this title by Dr. Willy Meyer, of New York. The speaker said that he had so far performed extirpation of a diseased kidney six times, and that all the six patients were alive and enjoyed life. Every one of the histories presented some points of interest; but on account of lack of time he would only give one, which seemed here worthy of report. Young unmarried lady, aged twenty-eight, presented all the symptoms of biliary calculus in an enlarged gall-bladder. But laparotomy proved the tumor to be retro-peritoneal. The abdominal wound healed by primary union. Its middle, however, opened again on the twelfth day after the operation, as two silk-worm gut sutures had made pressure-necrosis on the greatest convexity of the swelling, giving exit to a large amount of flocculent pus. Nephrectomy was performed on March 19, 1891, followed by undisturbed recovery. Patient was already sitting up, passing a normal amount of urine, when, on April 26th, the thirty-ninth day after the operation, absolute sudden anuria set in. After an expectant treatment of two and a half days nephrotomy on the remaining side was done, as a mechanical obstruction of the pelvis of the kidney or ureter had been diagnosed. They were incised and found to be filled with a dense mass of coagulated pus and blood. After some work the speaker succeeded in washing out the *débris* backward, toward the pelvis of the kidney, and thus to restore the patency of the ureter. A few weeks later, at the time of menstruation, the former trouble recurred, and the whole amount of urine which had already passed the bladder again made its exit through the lumbar opening. The former hopeful condition was restored eight weeks later, after a long, worm-like shred had been expelled through the vesical mouth of the left ureter. To-day patient is perfectly cured; the wounds are healed, and a normal amount of clear urine is voided.

The main conclusions offered were: 1. Before nephrectomy, cystoscopy should, if possible, be performed to determine the presence and excreting power of the opposite kidney. 2. If sudden total suppression of urine occurs some time after nephrectomy, the cause must be a mechanical one in the pelvis of the remaining kidney, or in its ureter. Nephrotomy or ureterotomy of this remaining kidney are then the only means to save the patient's life. 3. Right after nephrectomy there is generally an acute hyperæmia of the opposite side. This hyperæmia is frequently also occurring at the time of menstruation, but probably to a far less degree. 4. This hyperæmia often suddenly increases a disease of the remaining kidney, hitherto symptomless. It may also bring to perforation into the pelvis of the kidney an abscess, so far encapsulated in one of the pyramids.

Two Successful Cases of Conservative Cæsarean Section—Dr. Charles Jewett, of Brooklyn, read the history of the cases, both of which he operated upon in a hospital during December. The narrowing of the pelvis was due in each case to previous disease of the vertebræ. It

was intended in the first instance to perform craniotomy, but, the woman being a Catholic, Cæsarean section was performed with a successful result. Labor had begun. The child lived. In the second case the narrowing was greater, abortion had begun, section was performed according to the Saenger or improved method. He employed in each provisional ligation of the cervix by a soft hollow rubber tube. As far as possible entrance of blood and amniotic fluid into the peritoneal cavity was prevented, yet it should not be necessary, if proper aseptic precautions were taken, to wash or sponge out the cavity. Such interference was in itself objectionable.

The Operative Procedures in Uterine Displacements.—Dr. O. E. Herrick, of Grand Rapids, Mich., read the paper, describing a method which he had practised over twelve years in posterior displacements without adhesions and complications. Its object was to shorten the utero-sacral ligaments, thereby pulling the cervix back, which threw the body forward. The method had been more recently employed by Saenger without reference to the author's work. He regarded the method as more rational than that of shortening the round ligaments and ventral fixation. His results had been uniformly successful. He preferred silver wire as suture. Denudation was made, and the suture introduced by means of the curved needle, passing through the posterior surface of the cervix, high up through the walls of the cul-de-sac, close to the uterus, back close to the rectum, again into the vagina. The result was to cause the utero-sacral ligament to become folded upon itself, shortened, the uterus drawn up, the body forward.

Dr. Edebohls spoke strongly in favor of shortening the round ligaments, although he thought the author's method might have a place in some cases.

A Case of Extra-Uterine Pregnancy, Death of Fœtus at Third Month, and Fatal Hemorrhage Outside the Sac at Fourth Month.—Dr. I. S. Stone, of Washington, read the notes of the case. The autopsy revealed the conditions described in the title, death having taken place soon after the patient was brought in, following hemorrhage.

Second Day, Wednesday, February 3d.

The Crossed Suture.—Dr. George R. Fowler, of Brooklyn, sent the paper, which was read by Dr. Delatour. It consisted essentially of a suture which separately united the different layers of the walls of the wound by crossed suture from below upward, from the deeper portion to the integumentary surface. It was specially useful in laparotomy cases and herniotomy.

Notes on the Operative Treatment of Urethral Strictures.—Dr. F. R. Sturgis, of New York, stated, in the concluding remarks of a paper upon this subject, that no operation on the urethra, not even the simple introduction of the sound, was entirely devoid of danger. Perineal section was safest; next in comparative safety was gradual dilatation; next rapid divulsion; then came internal urethrotomy; electrolysis had not realized its promises. Caustics had been abandoned, but might be applicable since the introduction of the endoscope. He would in a given case first try gradual dilatation; if this failed, ordinarily he would try rapid dilatation, at least where the stricture was four inches from the meatus; perineal section, if deeper; internal urethrotomy, if less than three inches.

Compound Fractures and Their Treatment.—Dr. Herman Mynter, of Buffalo, read the paper. He described Volkman's greatly improved mortality rate when, instead of following the old method of sealing the wound in the skin, he explored it, removed foreign substances, pieces of bone, washed out, and drained. Under former prevailing methods the mortality in compound fractures, of the thigh, for instance, had been from thirty-eight to fifty per cent. and higher. Volkman published his method fifteen years ago, yet text-books had not yet fully thrown off old methods.

Dr. Mynter had for some years resorted to a more radical procedure than Volkman's. He always explored the wound, removed broken pieces, bruised tissues, cut off sharp edges, opened up pockets, turned out clots, cleansed. He preferred to do too much rather than too little. Thorough cleanliness was established. Drainage-tube was not inserted. Light plaster-of-Paris dressing was put on, and not removed without indication.

In the same hospital where his predecessor had sixteen successive deaths, he had as many successive recoveries. He gave statistics of eleven cases of compound fracture of the thigh, with successful results in all except one, which terminated fatally from delirium tremens. No pus had formed in any.

Abolition of the Death Penalty.—Dr. A. Jacobi read the report of the special committee appointed last year to consider the advisability of recommending to the Legislature the abolition of the death penalty. The committee consisted of Drs. Jacobi, William Wey, and B. F. Sherman. The report considered the subject from the point of view of science, going in considerable detail into the conditions influencing the abnormal development of the brain and abnormal or perverted mental action.

Back of many crimes was a history of some of the following conditions: protracted labor, faulty use of forceps, asphyxia, rachitis, hydrocephalus, epilepsy, idiocy, syphilis, alcoholism, the dime novel, masturbation, etc. Many persons had suffered the death penalty who were mentally irresponsible owing to disease. Many suicides were the result of cerebral or mental disease. Owing to the difficulty of recognizing such abnormal mental or cerebral conditions, and of convincing a jury of their existence, and for other reasons, the committee favored the abolition of the death penalty.

On motion the committee was continued another year, the report ordered published in the Transactions, and a thousand extra copies printed for general distribution by the committee.

Intravenous Saline Infusion for the Relief of Shock in Acute Anæmia.—Dr. L. S. Pilcher, of Brooklyn, read the paper. The merit of novelty, he said, no longer attached to this method. The extent of usefulness of the method and its technique had not been sufficiently appreciated. The cases in which it was applicable might be divided into three classes: 1, Those in which the element of hemorrhage predominated; 2, those in which shock and hemorrhage were both present in marked degree; 3, those in which shock predominated. The object was to restore blood-pressure. Heretofore too little fluid had been injected, which accounted for only temporary instead of permanent reaction. It should be repeated if the symptoms returned. The procedure was simple, and capable of being applied by any physician.

Surgical Shock.—Dr. J. H. Packard, of Philadelphia, read the paper, which discussed the subject in a comprehensive manner. He distinguished between shock and collapse. It was desirable that more accurate observations and records should be made of the early phenomena in shock. Especially should the temperature be taken. The skin was cold, but was the temperature always so? The author had seen reduction of temperature usually when taken. It had fallen in two cases on record below 82° F. It should give some indication as to the necessity for heroic measures.

He spoke of points in prevention in surgical shock—obviate prolonged narcosis, do not expose patient to cold or to unnecessary wetting during operation, etc. If before undertaking the operation the pulse flagged and became irregular under ether, abstain from operating. As to treatment, it had consisted in application of heat, stimulants by hypodermic injection, driving blood centrally, etc. He had not used injections of nitro-glycerine.

Those who discussed the paper favored larger hypodermic doses of strychnine and other stimulants.

Discussion on the Surgical Management of Genito-urinary Calculus.—Papers relating to special phases of this subject were read by Dr. J. D. Bryant, on "Diagnosis and Indications for Surgical Treatment;" by Dr. L. A. Stimson, on "The Surgical Treatment of Stone in the Kidney;" by Dr. A. T. Cabot, of Boston, on "Stone in the Ureter;" by Dr. E. L. Keyes and Dr. L. B. Bangs, on "Stone in the Bladder, what Special Indications should Govern a Choice of Operations as between Lithotomy and Lithotrity."

Fibroid Diseases of the Heart.—Dr. A. L. Loomis read a paper on this subject. He described the changes found in two illustrative cases, both of the patients having suffered from præcordial distress and died suddenly. The fibroid change was present in the left ventricle in plates replacing the heart-muscle in parts, in other parts the fibroid changes had replaced certain muscle-fibres, and other fibres were about to undergo a similar change. There was fibroid change in arteries also, especially of branches of the coronary artery. There was no evidence of the fibroid change being secondary to inflammation in the endocardium or pericardium. The kidneys were typical in these two cases of the early stage of renal fibrosis.

When he began investigating the subject he entertained the common opinion that a diagnosis could not be made during life; that the clinical picture was that of valvular disease when compensation ceased. He now believed the diagnosis could be made, based on the loss of cardiac rhythm, which came early, never entirely disappeared, and could not be restored by cardiac tonics. Digitalis and other like stimulants did no good, but were likely to do harm. The cause was defective nutrition, through toxic blood, toxic influence on cardiac nerves, change in the arterioles of the coronary artery, which seemed to be always present, and trauma. Preventive treatment consisted in milk and vegetable diet, promoting oxidation by free air and exercise, remove nitrogenous waste, etc.

The Importance of Drainage in the Treatment of Diseases of the Endometrium.—Dr. W. Gill Wylie in this paper described the method he had taught and practised for thirteen or even twenty years in the treatment of diseases of the endometrium. In cases without subinvolution or tumor it was necessary to forcibly dilate, then curette, wash, drain, perhaps apply tincture of iodine or carbolic acid. The best drain was the hard rubber, grooved stem, with a slight bulb, and proper curve. Gauze was not practicable in these cases.

A long discussion followed, in which Dr. Polk and others upheld the use of gauze, while Drs. Mordecai and Joseph Price and Hoffman, of Philadelphia, claimed there was no inflammation of the endometrium except gonorrhœal which called for treatment, and claimed that dilatation and applications were a most frequent cause of pyosalpinx, etc.

Drs. Mundé, Dudley, Boldt, and others upheld the necessity for treating endometritis, although admitting that methods may have been abused.

Ectopic Gestation, Its Comparative Symptomatology and Treatment.—Dr. Joseph Hoffman, of Philadelphia, read this paper. The diagnosis depended very largely on the symptomatology. It could seldom be made before rupture, because the symptoms were not such as to drive the patient to the physician. He urged immediate operation, when, as was the rule, symptoms of rupture had taken place. Do not in any case dally with electricity, opium injection, etc.

Vaginal Hysterectomy for Cancer.—Dr. E. W. Cushing, of Boston, in this paper argued in favor of total extirpation in cancer of the uterus, stated that he had usually employed clamps instead of ligature, had operated in about thirty cases—fifteen of the patients were yet living—without recurrence. Whenever, in his case, recurrence took place, it was always within six months of the operation.

Dr. Boldt upheld total extirpation as opposed to high amputation. Like views were expressed by Dr. Joseph Price.

Drainage in Abdominal Work.—Dr. Mordecai Price, of Philadelphia, read this paper, expressing in a most positive manner the opinion that in the practice of his brother, Dr. Joseph Price, and his own, the excellent results were in a large measure due to drainage. They had employed drainage in over one thousand cases of laparotomy with a mortality, excluding no cases, of not more than one to three per cent. Every form of intra-peritoneal disease, liver abscesses, abscess of the spleen, disease calling for nephrectomy, etc., was included. They used the glass drainage-tube, unless they wished to set up adhesive inflammation, as around a liver abscess, when they employed gauze. The author, Dr. Joseph Price, and Dr. Hoffman, of Philadelphia, took firm ground in their preference for the glass tube as opposed to gauze-packing in most abdominal work, while Drs. Dudley, Boldt, and others asserted in an equally positive manner that gauze was generally far preferable to the glass tube.

Recommended for State Medical Examiners.—The special committee, consisting of Drs. Roosa, Daniel Lewis, Charles Jewett, Charles Stover, and Clark (of Buffalo), recommended in their report the following gentlemen for State Medical Examiners: Drs. Eugene Beach, of Gloversville; Creveling, of Auburn; B. F. Sherman, of Ogdensburg; A. Walter Suiter, of Herkimer.

The report was adopted and these gentlemen recommended to the Board of Regents, from whom to choose two as Medical Examiners.

The President's Address.—The evening session of Wednesday was held in the Senate Chamber at the Capitol. Dr. A. Walter Suiter proceeded to read his address, which related to public hygiene. In it he reviewed the form in which health boards had existed in ancient and modern times, and made special mention of the interest in matters of public health shown by European governments. The course adopted by Germany was nearly ideal. He showed the advantages to be gained by our country in establishing a national health board in some form, whether it were called a department, a bureau, or a board. There should be one responsible head, able assistants, to be undisturbed by political changes, with ample funds for prevention of disease, making original investigation, etc. At present it would seem there should be two national boards under one head, one relating to public health in the interior, the other, like that of the Marine Hospital Service, to prevent importation of disease.

A vote of thanks was extended the President for his able and instructive address.

Report of Nominating Committee.—For *President*, Dr. Lewis S. Pilcher, of Brooklyn; *Vice-President*, Dr. H. L. Elsner, of Syracuse; *Secretary*, Dr. F. C. Curtis, of Albany; *Treasurer*, Dr. C. H. Porter, of Albany; *Committee on Legislation*, Drs. Roosa, Daniel Lewis, and M. J. Lewi; *Committee on Prize Essays*, Drs. G. H. Fox, W. W. Potter, and J. O. Roe.

Expulsion of a Tape-worm by the Mouth.—Drs. Bernard and Renaud have reported (*Journal des Sciences Médicales de Lille*, No. 18, 1891) the case of a young woman who suffered from repeated attacks of weakness and syncope followed by copious emesis. During one of the attacks of vomiting she delivered herself of a perfect tape-worm about ten feet in length, soon after which all her troubles ceased.

Glottic Spasm.—Sir Morell Mackenzie says that a little snuff or other nasal irritation, sufficient to excite a paroxysm of sneezing in the infant, will cut short an attack of spasm of the glottis.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

INFLUENZA—INCREASE IN THE NUMBER OF DEATHS—THE FATAL ILLNESS OF THE DUKE OF CLARENCE—ROYALTY AND THEIR MEDICAL ATTENDANTS—DR. BROADBENT—GOUT OF THE PENIS—TREPHINING FOR HEMORRHAGE FROM THE MIDDLE MENINGEAL—CEREBRAL HEMORRHAGE—GALVANO-CAUTERY FOR PROSTATIC OBSTRUCTION.

LONDON, January 16, 1892.

"INFLUENZA" is the one subject at present to the front, and one of overwhelming interest to both the profession and the public. The epidemic shows as yet no signs of abatement in the metropolis—or, indeed, in any part of the United Kingdom, except Scotland and some parts of Wales. In the week ending January 9th the deaths registered in London as due to influenza were ninety-five in number, or nearly three times as many as those registered in the previous week. (The returns for the present week will probably show an even larger mortality from the disease.) Doctors are being summoned in all directions at once to attend on influenza patients, and I understand that two medical men in partnership in the West End attended between them no fewer than eighty cases in one day. Public excitement was intensified by the news that the Duke of Clarence and Avondale was prostrated with the disorder, and especially when it became known on Wednesday that his condition was critical. The intelligence of his Royal Highness's death on Thursday morning reached London about ten o'clock and the public excitement then attained its highest point, almost equalling that which was evinced twenty years ago when the Prince of Wales lay ill with typhoid fever. Long before these lines are read by your readers, however, all details of the case will have reached them by cable, so I do not propose to take up your space by relating what is already known to them. A few lines on some other aspects of the case may, nevertheless, be of some interest. In the case of a royal patient, the ordinary medical attendant is, in general, first summoned. For the Queen, this would be her resident physician—Dr. Reid—who is always in attendance on Her Majesty and travels with her wherever she goes. The Prince of Wales has no resident medical attendant, but, in London, the Surgeon-Apothecary to the household—Dr. Laking—is close at hand, as he practises in Pall Mall, just opposite the gates of Marlborough House, and at Sandringham, Dr. Manby, the Surgeon-Apothecary to the Prince and Princess of Wales there—resides within a short distance; neither Dr. Laking nor Dr. Manby, however, are exclusively retained for their royal patients but are both in the enjoyment of large and lucrative practices in their respective localities. Supposing a Royal personage to be attacked by a grave malady, one of the physicians or surgeons in ordinary would next be summoned. This course has, though, not been invariably pursued, and was notably departed from in the case of the Prince of Wales's own serious illness, when Sir William Gull (then plain Dr. Gull) was called in and the Prince of Wales's own Physician-in-Ordinary not sent for.

In the recent illness of Prince George of Wales the precedent thus created was followed. Dr. Manby saw the young prince, and after his removal to London, Dr. Laking. Then, however, Dr. Broadbent was called in and not one of the Prince of Wales's own Physicians-in-Ordinary. Prince George of Wales had, however, no officially appointed medical attendant, and in his case, therefore, the calling in of a physician not already holding a Court appointment did not excite as much comment as was caused by the action with regard to Dr. Gull, in the Prince of Wales's own case. The selection of Dr. Broadbent to attend Prince George was doubtless prompted by the desire to obtain the services of a physician with special experience of the fever which has proved so dangerous to the royal family. Dr. Broadbent was for many years physician to the London Fever Hospital, and is the author of the elaborate article on "Typhoid Fever" in "Quain's Dictionary of Medicine." Dr. Broadbent is one of the few medical men receiving their medical education in the provinces who have attained high professional rank in London. Studying at the Manchester School of Medicine, he graduated at the University of London with high honors, obtaining an exhibition, a scholarship, and four gold medals. He then came to London to fill a minor appointment at St. Mary's Hospital—that of resident obstetric officer. A vacancy for an assistant physician occurring shortly afterward he applied for it, and his work had already produced such an impression that he was elected. This was about thirty years ago and Dr. Broadbent's name has been associated with St. Mary's Hospital ever since. He is at present the senior physician and was elected last year for an additional five years as physician to the hospital, although he had completed the twenty years' service as in-patient physician allowed by the rules. Early in his London career he obtained a reputation for thoroughness in his work. He was unremitting in performing his hospital duties in the out patient department, and would spend many hours in elucidating obscure cases and demonstrating them to the students. The physiology and pathology of the nervous system early attracted his special attention and he published several papers embodying original researches and theories in neurology. His theory of the association of certain nerve nuclei on opposite sides of the body—which explains certain anomalies observed in both paralyses and convulsions—was described in a paper published in the now defunct *British and Foreign Medico-Chirurgical Review*, in 1866, and speedily obtained general recognition. Since then Dr. Broadbent has published numerous papers on various subjects but he is the author of only one medical work, viz., "The Pulse," a volume published a few years ago. He speedily produced the impression on his pupils, his colleagues, and his patients of "a man who knew," and was not long in laying the foundation of a large private practice, now larger than that of any other London physician. Dr. Broadbent's success has not been gained by any special charm of manner, nor by any peculiar "gift of the gab," to which it is said the success of one very fashionable physician is due. As, however, his hospital pupils found that he was a very careful and accurate observer of physical signs and symptoms, and one skilful to interpret them aright, so did his private patients learn to repose confidence in his opinion, and believe that it was based on a thorough knowledge of disease. In his practice he has ever been ready to adopt new methods of treatment when desirable, and, on the other hand, has been equally willing to revert to old and tried remedies in preference to "new-fangled" ones when they have commended themselves to his judgment. Few of his students but will remember how strenuously he has urged the value of bleeding in certain cases, and of how he has insisted on the benefit often obtained in chronic—even non-syphilitic—cases by the administration of small doses of mercury. Having gained the confidence of the royal family in the case of Prince George of Wales, it is not surprising that he should have been summoned to Sandringham to attend Prince Albert Victor, but, unfortunately, with a less favorable result than in the case of the younger prince.

At the last meeting of the Clinical Society Sir Dyce Duckworth gave an account of a case of gout of the penis. There was painful priapism, persisting without intermission for twenty-one days; it then gradually subsided with general amendment of all the symptoms. Dr. Ord remarked that he had never met with the condition in an acute form. Mr. Bland Sutton read notes of a case of fracture of the skull complicated with hemorrhage from the middle meningeal artery in which trephining was per-

formed, the artery secured, and a successful result obtained.

At the Medical Society on Monday evening, Dr. Churton read the notes of a case of cerebral hemorrhage, presenting some features of interest. There were signs of both femoral (right) and pulmonary phlebitis; there was also complete anæsthesia of the left foot. It was found after death that there had been hemorrhage almost simultaneously in both hemispheres. Mr. Bruce Clark read a paper on "The Radical Cure of Prostatic Obstruction by the Galvano-cautery."

THE USE OF WOMAN PHYSICIANS.

To the Editor of the Medical Record.

Sir: A series of open letters in the *Century Magazine*, some months ago, concerning the woman doctor, contained much matter and some pith. The wise things said by Josephine Lowell, the outcome of intelligent experience, are worthy to be incorporated into whatever creed the public may hold henceforth in regard to medical women.

Inherent womanliness, says Mrs. Lowell, constitutes the chief characteristic of the ideal woman physician. It is upon the womanliness of educated women that is based the strongest argument in favor of placing under their care women who are suffering from disease, either physical or mental, and women who have lost all womanliness. To the strong, to the well, to the good, to the happy, sympathy is not essential. They can live without it. To the weak, the suffering, the crushed, and the wicked sympathy is the first necessity. They must have it, or they cannot be lifted and cured. Now the sympathy that one woman can give to another is impossible from a man. The common sympathy that one human being may feel for another under all circumstances will in such event be perverted by an abnormal mind, and work harm instead of good. To women shut away in insane asylums, prisons, and reformatories, for their own care and the safety of others, the ministrations of high-minded womanly women are almost a necessity. To have men in exclusive charge of such cases is to throw away the strongest influence for good which can possibly be available for the reformation and cure of either prisoners or patients. A woman can know a woman as a man cannot. And a young, ignorant, wayward girl, will often conceive for a calm-browed, steady-minded woman physician an extent of devotion that will serve to keep her from wrong through life. No man can stand in such a relation to the girl.

In the same series of open letters appears one from Dr. Charles Folsom, of Boston, in which he says: "The community needs a woman's educational view of morality, rectifying and revising standards. And therein, perhaps, is one opportunity of many for the woman physician of the future to help. By bringing the work of the best women into the practice of medicine the medical profession must be benefited and the world may be improved."

Earnest women of well-trained minds have an instinct for reform. They unearth the forgotten things, and give time and attention to details that men have not the inclination —perhaps not the ability—to undertake in serious part. And no one denies the importance of such endeavor, which is as essential to progress as the creative faculty. Rational dress, simpler methods of domestic life, educational reforms, and the wise protection of childhood, are, in a measure, the result of intelligent efforts on the part of woman physicians. The use of medical women may be quite outside the department of discovery, analysis, or invention. But even the casual observer will admit that the sensible, womanly woman, trained in the medical sciences, is to-day a power for good indispensable to the better life of this world. That things are not so bad as they might be for womankind at large is the result of silent, obscure effort, to heroism that never sees the light of day, to the applied intelligence of educated women, earnest purpose, especially the intelligence of the medical remnant.

A Woman Physician.

New York, January 29, 1892.

THE ANTISEPTIC TREATMENT OF TETANUS.

To the Editor of the Medical Record.

Sir: In an article on "Tetanus" by Dr. Licorish, of Barbadoes, published in the Medical Record of July 28, 1891, the author regards the disease as one of the sympathetic. Its first symptom is not, he says, stiffness of the muscles of the neck and jaws, but a pain or indescribable sensation in the epigastric or umbilical region, due, he believes, to an affection of the abdominal sympathetic ganglia. His treatment consists in the administration of purgatives, especially salines, and nervous sedatives, preferably belladonna. One of his colleagues, who uses the same method, giving a dose of calomel at the commencement, says that he has ceased to regard the disease as one of such a desperate character since beginning this mode of treatment. As to the theory of infection, the author thinks it probable that the microbe of the disease resides always in the organism, and is called into activity only in consequence of a wound or the action of cold. That is the substance of the abstract of the article which I saw in the *Anales de la Asistencia Pública*, of Buenos Ayres (being prevented from reading it in the original by my inability to read English), and my remarks are based on the assumed correctness of this abstract.

I do not think that the author of this communication can be unaware of recent investigations into the nature of tetanus, which would show it to be of equine origin. M. Verneuil and others have found the bacillus of tetanus in stables, manure heaps, pastures, and in the ditches in which the bodies of horses have been buried. The bacillus is found at a certain depth in the earth, and also in the dust of places in which patients were first cared for when wounded. When the results of these investigations were communicated to the Académie de Médecine, the friends of tradition did not fail to show their conservatism, and maintain that there might also be a *tetanus a frigore* as well as a bacillary one. For myself it is theoretically impossible and contrary to reason that two different agents should produce identical effects. Either there must have been an error in diagnosis in the case of the supposed *tetanus a frigore*, or else it was true tetanus, due to the invasion of the bacillus, which bacillus, however, the observer has not looked for or has not known how to recognize.

I admit that the identity between two diseases, of which one follows traumatism and the other presents no apparent point of entry for the microbe, might be held to corroborate the conjecture of Dr. Licorish that the bacillus is constantly present in the body, but there are so many arguments to be raised against this hypothesis, ingenious as it is, that it cannot be maintained. The first objection is drawn from the relative rarity of tetanus as compared to the frequency of the causes—traumatism and cold—which may produce it. I know that this malady is much more common in certain warm countries than it is in Europe, but the endemic character which it assumes in these countries may be explained, it seems to me, in the same way as that of cholera in India, or yellow fever in America, endemics the first causes of which are not to be found within the organism itself. The tetanic bacillus becomes more diffused in proportion to the number of persons it attacks and destroys.

As to the treatment advised by the author, it may be excellent, but if so it is solely because it is antiseptic, or, according to the barbarous term in common use, microbicidal. Calomel is a powerful antiseptic, and belladonna is a nervine, the effect of which may be to para-

lyze the vital and reproductive powers of the bacillus. In the *Wiener Medizinische Presse*, No. 7, 1890, a case is related of a boy, fifteen years of age, suffering from tetanus following a contused wound, for whose relief all the ordinary remedies, warm baths, chloral, etc., had been tried without any effect upon the temperature or the muscular rigidity. Dr. F. Paolini then, four days after the receipt of the accident, had recourse to hypodermic injections of a one per cent. solution of phenic acid, repeated every three hours for four days. From the first day the temperature began to fall and the trismus and muscular rigidity to diminish, and the result was a complete cure. Another patient was treated by Dr. Baccelli for tetanus in the same way, with the same result, and medical literature contains still other cases of the same kind.

It is my firm conviction that phenic acid, employed in the manner indicated in my "Manual of Antiseptic Medication," recently reviewed in your columns, will not only relieve pronounced cases of tetanus, but will also be found a prophylactic when used in the treatment of wounds. It is not only an efficacious remedy in case of the invasion of the bacillus, but is also the most efficient barrier which can be raised against its diffusion and propagation.

If you will kindly present these views to your readers, I shall esteem myself happy in having rendered them the service through this channel. DR. DÉCLAT.

VILLA DÉCLAT, QUAI DU MIDI, NICE, December 25, 1891.

FAVORITISM AT THE NEW YORK ACADEMY OF MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It has seemed to me that the letter recently published in your columns by Dr. Amidon, although unnecessarily petulant and disagreeable in tone, contained two remarks deserving of further consideration. The first was to the effect that, as non-members of the Academy now enjoyed its principal advantages without having to pay for them—notably the privilege of its library, the freedom of its beautiful building, and the right to attend its meetings—there was little inducement to become a member, especially since the membership dues had been so much increased.

One would imagine that a New York physician of many years' standing, would consider it a point of honor to share in the expense of securing advantages so necessary to the entire profession, and so liberally thrown open to all. Who that can possibly help it wants someone else to do his paying for him, without offering a return? Who feels proud of the privileges of a deadhead? If I entirely condemn this first remark of Dr. Amidon's, I must, however, entirely second his protest against the present system of managing the stated meetings and debates at the Academy. The very purpose of the system introduced by the late president, Dr. Jacobi, to enlarge the membership of the Academy as much as possible, instead of keeping it as restricted as possible, was to secure a constant infusion of new and young blood, to avoid the tendency to stagnation and fossilization which had hitherto prevailed. This purpose is defeated by the present habit of restricting debate to a limited number of speakers, always the same in each given range of subjects, well known to habitual and patient attendants at the meetings, and extremely liable to repeat their own views, which are also well known, over and over again. It is certainly a great improvement on former practice, that one or two persons should be invited beforehand to discuss the paper of the evening. But when no space or opportunity is left for extemporaneous debate, the chief zest of the occasion is missed, for nothing is struck off on the spur of the moment, and while the mental iron is hot. Those who come to the debate prepared beforehand, very rarely speak upon the paper, even when they really contribute something further to the discussion of the subject; and if debaters must be invited beforehand, why should not the rolls of the Academy be examined more impartially and systematically, so that continually new members should be invited to debate? It is the newer and younger members who might more especially be supposed to require previous preparation; those who are thoroughly conversant with a subject, might be expected to be able to talk about it at the moment it comes under discussion, be able to have ideas suggested by what the speaker says, and not be compelled to conceal their inability to follow the speaker, by a discourse on points quite other than those he has raised.

The reason of existence of the Academy of Medicine, is to furnish incessant mental stimulus to the medical profession, where intellectual interests are constantly liable to be forgotten amid the drudgery of daily work. For this purpose every effort should be made to diffuse such stimulus, and to incite members to work, instead of coaxing them to come and sit in an audience by bribes of chicken-salad and ice-cream.

ANOTHER FELLOW.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with interest and approval the letters recently published in your columns relating to the management of the Academy of Medicine of this city. They no doubt reflect the sentiments of a large majority of the members having the true interests of that institution at heart. It is well to keep up the attack thus worthily opened, and therefore I ask to call attention to another point in connection with the Academy which would seem deserving of criticism and to call for agitation. This refers to a growing tendency observable to convert the Academy at the annual elections into a political machine to be used to further the interests of certain medical colleges by securing as many of the offices as possible to its faculties and friends, as has been openly practised for several years in the politics of the County Medical Society. Openly or secretly electioneering to this end deserves to be frowned upon by everyone who respects the Academy, and we should see to it that all candidates thus put forward are promptly "snowed under" at the voting.

Put to such unworthy purpose, the Academy must surely soon cease to serve its proper function, and its most worthy members will cease to take much interest in its proceedings, diverted from disinterested scientific pursuits.

It would seem highly desirable that members should put aside private and irrelevant interests on entering its jurisdictions, and aspire with unanimity to make the Academy the representative scientific medical society of the country, as it ought to be, but as it surely cannot be without this. Respectfully,

A NEW MEMBER.

NEW YORK, January 23, 1892.

THE TREATMENT OF HEMORRHAGE BY THE INFUSION OF SALINE SOLUTIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD, vol. xli., No. 1., appeared an article by Dr. R. H. M. Dawbarn on the surgical treatment of medical hemorrhage, in the course of which is advocated the infusion of a 0.6 per cent. saline solution at or above the temperature of the blood. Dr. Dawbarn also cites an interesting case in which the value of this measure has been successfully demonstrated. This mode of treatment is not new, because experiments and cases have been reported since 1879.

Schwarz [1] has made a number of experiments on rabbits and dogs, in which he demonstrated the high value of intra-venous and intra-arterial infusions of a 0.6 per cent.

[1] Centralblatt für Gynäcologie, 1881, and Berlin. Klinische Wochenschrift, 1882.

saline solution. The animals recovered permanently after the abstraction of immense quantities of blood.

Kronecker and Sauder,[1] also Ott,[2] report equal good results. The experiments of Ott have been very minute, and were made under the supervision of Cohnheim.

Kümmel[3] publishes two cases from Schede's clinic in Hamburg, in both of which intra-arterial infusion had been applied. The apparatus he used was a glass funnel, rubber tubing, and a large hypodermatic needle.

CASE I.—Male, aged twenty eight, much run down. Nephrectomy was performed for hydro nephrosis. Marked collapse from loss of blood. Pulse small, 132. Respiration, 40. Infusion into the radial artery of solution of NaCl 0.6 per cent., 1,000 grams, at 40° C. Improvement followed, and finally all symptoms of collapse disappeared. The patient died the second day from amyloid degeneration of the other kidney.

CASE II.—Female, aged sixty-one. Resection of knee-joint for suppurative arthritis. The day following the operation severe secondary hemorrhage, symptoms of extreme exsanguination. Infusion of 500 grams into the ulnar artery, rapid improvement of symptoms. Two days later the arm in which the infusion was made became gangrenous and had to be amputated. The gangrene was caused by thrombosis of the ulnar artery and its branches.

Bishop[4] reports the following case.

I-para, aged thirty one, severe post partum hemorrhage; 1,450 grams of blood were collected in one vessel. Collapse. Pulse, 156, only at times perceptible. Extremities cool, death seemed imminent. Infusion of 1,250 grams into the radial artery was followed by a rapid subsiding of all the bad symptoms. Recovery.

Küstner publishes one case out of Schulze's clinic in Jena. Laparotomy was performed for carcinoma of the peritoneum. The woman was in a very poor condition, and the loss of blood brought on collapse. Infusion of 1,000 grams caused some improvement. The method employed by these men does not differ much from that of Dr. Dawbarn, the radial or ulnar arteries are substituted for the femoral artery. The apparatus used is practically a fountain syringe, and this has the advantage over the Davidson syringe, that with a little care the introduction of air is an impossibility. I also wish to remark that the Davidson syringes found in private houses have served various purposes, and are not in a very aseptic condition. The second case of Kümmel teaches us to bear in mind the danger of thrombosis.

Dr. Dawbarn refers to the method employed in the lying in hospital in Dresden. Dr. Münchmeier, at that time first assistant, has published an exhaustive paper on this subject.[5] He also reports eight successful cases, while in ten others no improvement followed. The infusion is made subcutaneous instead of intra-vascular. The apparatus and solutions are the same as previously described. While I was assistant in Dresden, two cases of collapse following hemorrhage from placenta prævia were treated by this method. I will briefly report them.

CASE I.—VI-para, aged thirty-six, normal pelvis; very anæmic. Had suffered for some weeks from uterine hemorrhages.

Diagnosis.—Placenta prævia lateralis, vortex presentation, os nearly dilated, membranes intact, moderate hemorrhage. Podalic version was done under chloroform; during the operation pulse small and rapid. A living child was extracted, and this was followed by considerable hemorrhage from a lacerated cervix. The hemorrhage was immediately arrested, but the woman was so anæmic that this hemorrhage proved fatal. Infusion and enemata of saline solutions, also the free use of analeptics, were unable to combat the collapse, and she died one and a half hour post partum.

CASE II.—IX-para, aged forty-three, very deplorable condition, cold and pulseless; history of severe uterine hemorrhage was given.

Diagnosis.—Normal pelvis, vortex presentation, os dilated, membranes intact. The membranes were ruptured, no further hemorrhage, and the case was left to nature. Fifteen minutes later, birth of a dead fœtus. Subcutaneous infusion was successful in this case, she rapidly improved, and left the clinic on the tenth day.

JULIUS ROSENBERG, M.D.
37 EAST SIXTY-SECOND STREET.

[1] Berlin. Klinische Wochenschrift, 1879.
[2] Virchow's Archiv, No. 93.
[3] Centralblatt für Chirurgie, 1882.
[4] Centralblatt für Gynäcologie, No. 20.
[5] Archiv für Gynäcologie, vol. xxxiv.

VIS PROTECTRIX NATURÆ IN THE VEGETABLE WORLD, AND ITS RELATION TO THERAPY IN THE ANIMAL WORLD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial of December 19, 1891, entitled "The Discovery of the Vis Medicatrix Naturæ," suggests that the same principle therein discussed in relation to animal life doubtless is applicable, also, to vegetable life, and that herein may perhaps be found the key to the therapeutical application of certain vegetable drugs. We know that the balsamic products, for example, have protective functions in the economy of those plants which secrete them, and that from them are derived some of our best germicidal agents, as well as other potent medicines. May not the vegetable alkaloids, and many other vegetable medicines, hold the same relation to the lives of the several plant species which produce them?

Maclagan, I believe, in discussing salicin as a remedy in acute rheumatism touches upon this, but he regards it as the result of providential design for man's benefit, arguing that wherever any human disease is prevalent there will be found its remedy, providentially prepared by indigenous vegetation. I should say that nearly everything in the world might be rationally regarded as, in a sense, providentially designed for man's use, but that, at the same time, particular applications must be diligently sought out and wisely made before the design becomes apparent. This is only to say that all nature (man included) is comprehended under one universal bond of connection and of interdependence, and that man, as the head and the possible comprehender of it all, must have the latent (at least) capacity for all its uses. But it does not necessarily imply that any particular thing was originally designed for him as distinctively man, but rather he is the distinctive and inevitable product of everything else in nature, and consequently, by reflex, in sympathy with everything. The following seems to me the better explanation of how salicin happens to be found where it is needed as a remedy for rheumatism.

The willow's natural home is in the cold and damp soil where the germs of rheumatism are supposed to lurk. In the evolution of the willow species, we may suppose that it had to fight for existence against the germ (or a similar one) that now produces rheumatism in the human species. It survived the struggle by virtue of salicin, which a yearning want evoked from its chemical elements, as a necessity of its continued existence. Salicin having at length become a natural ingredient of the willow, the latter was thereafter secure from the foe which had formerly most especially threatened its life. It is not essential to the argument that this application of salicin to rheumatism should fit, but as a matter of fact I believe it is a very good fit, having used salicin for nearly ten years in every case of acute rheumatism occurring in my practice, and never once having seen it alone fail to control the symptoms within a week. If it fail, it will be from too timid dosing.

The analogy between vegetable alkaloids and ptomaïnes perhaps indicates that they play similar parts in their respective spheres.

There is no apparent proof that plants, during their evolution as species, were subject to attacks by the same microscopic foes as are now wont to infest human flesh,

but it does not seem very improbable; and, therefore, we may have but to listen with sufficient attention to learn the secret source of the remedy for every infectious disease hidden somewhere in the vegetable kingdom.

This theory of plants having acquired immunity from diseases to which they were by supposition formerly subject, may afford an explanation of how an individual of the human species gains immunity from subsequent attacks of an infectious disease, like scarlet fever, by having suffered one attack. The conclusion would be that, by infinite repetition of the disease among individuals, immunity would finally become a permanent accumulation in the species. The individuals would be born protected.

In the meantime there is ample scope for usefulness in the medical profession, in discovering and skilfully transferring to afflicted individuals of the human species the remedies for diseases accumulated and stored up by other older species.

Doubtless, to many readers all this will appear fanciful, and it is offered only as suggestive of possibilities, grasping after unattainables, perhaps—a poetic aspiration, as it were, of materia medica.

Respectfully yours,

HOBART CHEESMAN, M.D.

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Clinical Department.

TWO CASES OF STRICTURE OF THE URETHRA, WITH INTERESTING FEATURES.

BY JOSEPH L. BAUER, M.D.,

ST. LOUIS, MO.

PROFESSOR OF GENITO-URINARY SURGERY; ASSISTANT PROFESSOR OF ORTHOPEDIC SURGERY, ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS; SURGEON TO ST. MARGARET'S HOSPITAL FOR WOMEN.

CASE I. *Close Stricture of Membranous Urethra—Retention of Urine—Septic Poisoning—Ultimate Recovery.*—John W——, aged forty-six, a merchant of a neighboring State, was referred to me for the relief of stricture of the urethra, which at the time of his visit was to all intents and purposes impermeable. I found the fundus of the bladder midway between the symphysis pubis and umbilicus, and causing him considerable inconvenience. As was then my custom, a physiological dose of opium (two grains), combined with extract of belladonna (one-fourth grain), was prescribed, in order to allay spasmodic conditions if such existed. A hot sitz-bath (115° F.) of fifteen minutes' duration was also ordered. After much, though careful, effort, a small steel instrument passed the coarctation. He was requested to return the next day for further instrumentation. This time No. 12 passed easily. On the evening of the same day, I was summoned to him, and found that he had had a chill, that was followed by high fever, his temperature registering 104.5° F. at the time of my visit. His apartment, in a second-class hotel, being far from salubrious, the patient was at once removed to the hospital. Twenty-five grains of sodium salicylate every four hours was prescribed, prior to which, however, a fifteen-grain dose of calomel [1] was administered, to be followed in three hours by a seidlitz powder. Nevertheless, the pyrexia remained at 102° F. for a week later, notwithstanding the free use of antipyretic remedies.

On the fifth day an inflammatory swelling developed on the dorsum of the left hand, which resulted in the formation of an abscess with carbuncular characteristics. This abscess was freely opened, and treated with 1 to 2,000 solution of bichloride of mercury. Two days afterward a similar swelling appeared over the right temporo-maxillary articulation. An abscess also developed at this site, was freely incised, and treated antiseptically. During, and subsequent to, the developmental stage of this abscess, tetanic closure of the jaws took place, which lasted some time afterward, necessitating rectal feeding. The lymphatic ganglia were all more or less involved. Six weeks elapsed before the patient left the hospital, and during all this time the objective and subjective phenomena indicated intense septic infection. His unfortunate experience prejudiced him against further instrumental treatment.

I was much concerned about the complications occurring in this case, and naturally concluded that my instruments had carried the coccus septicus into the urethra. This conclusion would have been justified had I not always scrupulously cleansed my instruments after use. Neither had I previously used them in a case where I could suspect a *causa movens*. I can assume either that the necessary mycotic element existed *in situ*, and that the traumatism stimulated its activity, or that septic material still adhered to my instrument, notwithstanding its careful cleansing.

CASE II. *Traumatic Stricture of the Urethra—Urinary Abscesses and Fistulæ—Treatment by Continuous Dilatation and Persistent Drain through a Catheter for Three Weeks—Recovery.*—About ten years ago I published [1] a case of impermeable stricture of the urethra, complicated by a large number of urinary fistulæ, in which I permitted the patient to attend to his avocation, with an ordinary catheter of the shops tied in his urethra. His position as foreman of a large car-stable necessitated much movement, and the case was certainly a fair test of the practicability of the method. Dittel,[2] commenting favorably upon the perfect result, asked "why I had not used silver instruments?" The reason seemed to me obvious, and any explanation unnecessary. I may state, in addition, that for eight years after he was discharged, and until the time he was killed by an engine of the Fire Department, not an instrument was used for the evacuation of his bladder or the treatment of his stricture. The case simply proved that perineal section was not the remedy *per se* for such difficulties, and that organic stricture of the urethra can be cured, even though we cannot remove all the cicatricial tissue surrounding the canal. Further, that the removal of urinary friction and contact are the means to an end in the treatment. A similar case [3] recently presented itself at my clinic.

D. F. K——, aged forty nine, has always been well up to July, 1881, excepting one attack of gonorrhœa which he contracted during the war. It lasted but two weeks, and was controlled by balsam of copaiba. During July, 1881, patient fell astraddle a plank fence, injuring the perineum. Swelling of the genitals followed in half an hour. Patient was bed-fast for two weeks. No history of urethral hemorrhage. No record of sudden retention. During these two weeks, and for three months afterward, the urinary stream became gradually reduced in diameter, and at the end of this time the first complete retention occurred. This was relieved by cocaine injections and silver catheter. He used the instrument off and on for a year, when the second urinary retention occurred. About this time urinary infiltration and abscesses ensued, followed by fistulous tracts. Ever since that time repeated attacks of retention, abscesses, and fistulæ developed, the most of his urine passing through the fistulæ.

When I examined him, the evidence of urethral mischief was apparent. The scrotum and perineum were riddled with old, healed tracts, patent canals, and several in the process of formation. The latter were left untouched though the purulent collection was prominent. An examination of the canal and introduction of soft instruments eventuated in the passage, with some difficulty, of a No. 4

[1] The revival of calomel administration in the initiatory stages of mycotic disease is undoubtedly a wise precaution. By this means the constitution is freed to a large extent of mycotic elements, and the formation of ptomaïnes lessened. The action of calomel upon the kidneys and intestines particularly favors this agent.

[1] The loss of the journal containing this report forces me to rely on my memory. I believe it appeared in the Philadelphia Medical and Surgical Reporter.

[2] Centralblatt für Chirurgie.

[3] The case of McCabe was a traumatism to the membranous urethra, following a fall from a horse.

A. S. ordinary gum elastic catheter. Every effort to pass a larger steel instrument resulted negatively. The question now arose, Shall perineal section be advised, or should my experience with the McCabe case be repeated? The former was impractical, because he refused to enter a charity hospital, and his means would not permit him to go to bed. I chose the catheter *à demeure*, and fixed No. 4 of the shops in his canal. He was sent home, and advised to continue his avocation. This he did, and returned the next day. The catheter was quite movable, and had caused him no inconvenience, though his occupation necessitated much walking. Some urine had passed along the sides of the instrument. No difficulty was experienced in fixing a No. 7 instrument in the same manner as before. The next day a similar report was received, excepting that no urine had passed alongside of the catheter. No. 10 was introduced and fixed similarly. On the fourth day No. 12 was passed and stationed as before. When he returned the succeeding day, he reported a slight vesical tenesmus, which I attributed to the proximal tip of the instrument irritating the bladder. Not having a larger catheter at hand, the treatment was varied somewhat. Steel instruments were used hereafter; the patient was directed, however, not to micturate voluntarily under any circumstances, but to introduce a No. 12 instrument whenever he felt a desire to pass water. Three weeks have elapsed (treatment was interrupted five days, patient being out of the city) since treatment began, and No. 28 F. can be introduced with little difficulty. Indeed, the stricture seizure upon the instrument is gradually lessening, an evidence of import, and an indication that the cicatricial tissue is losing its contractility.

Though this case is still under observation, and a final judgment not yet permissible, I have reason to believe that success is as hopeful as in the case of McCabe. That the treatment pursued embodies the principles of urinary drain through the perineum, the vesical trigone, or suprapubic section, is self-evident. That it enables the patient to pursue his avocation unhindered is proven, and must take precedence over any operative procedure. That the treatment can be pursued indefinitely without producing irritation,[1] or calcareous deposit upon the proximal tip can be assured. That it is not as rapid in its results, and does not offer the opportunity for surgical *finesse*, is compensated for by the ability afforded the patient to follow his vocation without interference; and in fine, it offers as good an opportunity of permanent relief as any operation heretofore suggested.

SUDDEN AND PROFUSE HEMORRHAGE DURING LABOR.

By L. N. SHARP, M.D.,

MINNEAPOLIS, MINN.

Having recently attended an obstetrical case with a peculiarity, I thought it worthy of record.

Mrs. C——, eight months pregnant, had labor pains all day, with occasional vomiting, and thinking she was going to be delivered, sent for me at 5 P.M. On arrival she was having pains quite regularly and frequently, and examination showed the os to be dilated to about the size of a quarter of a dollar. A little later while sitting on a chair, and while vomiting, she had quite an extensive hemorrhage from the vagina. The blood ran through her clothing and down over the floor. I ordered her in bed, and labor progressed with but little more discharge of blood. At 10.30 the "waters" broke, and as the child lingered in the pelvis, I delivered with forceps at 12.30 in the morning. There was no sign of life in the child, no pulsations in the cord or fœtal heart.

My understanding of her case is that during the vomiting the placenta was completely detached, and hence the hemorrhage. The condition of cord and child favor this conclusion. I was not able with the finger to detect the placenta at any time during labor, and do not think the attachment was near the os.

[1] The following precaution must be adopted: The tip of the instrument must rest in the vesical end of the prostatic urethra. This prevents vesical irritation and calcareous deposit.

PITCHFORK WOUND OF THE NECK.

By W. H. STROUP, M.D.,

SPENCER, O.

On the evening of October 29, 1891, I was summoned to see a boy, fifteen years old, who had fallen from a load of hay on a pitchfork which he had on the load. On examination I found that one of the fork-tines had penetrated the neck, passing clear through. It entered on the right side just above the clavicle, passing back of the common carotid artery, but pierced the internal jugular vein, and made its exit on the opposite side, but considerably posteriorly.

During the first few hours he vomited a great deal, was dizzy when he opened his eyes, was somewhat comatose, and the pupils were irregularly dilated. There was retention of urine.

Gradually these symptoms subsided, and the boy is now able to be around. I think the vomiting was due to injury to the vagus nerve. The ocular symptoms and retention of urine pointed to head injury. I forgot to mention that he had severe frontal headache. The treatment was cold to the head, arnica to the neck, and the other treatment was symptomatic.

A NEW PROCEDURE IN EXTRACTION OF CATARACT IN ITS CAPSULE.

By GEORGE H. POWERS, M.D.,

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PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, MEDICAL DEPARTMENT, UNIVERSITY OF CALIFORNIA.

Having been unable to find any notice of the previous use of the simple step which I have lately adopted to facilitate the removal of the capsule in cataract extractions, and as it seems to me to be possibly a very valuable improvement upon former methods, I briefly outline it here in the hope that other operators may give it a trial and publish their results. It consists simply in the detachment of the capsule by rotation. After completing the incision, I pass the point of the cystotome to, or a little beyond, the farther margin of the pupil, when, instead of lacerating the capsule, I plunge the point of the instrument well into the lens. It becomes then very easy to rotate the whole lens by gently moving the point of the cystotome thus embedded around the periphery of the pupil, just as one rotates a wheel by applying force to one point on the hub.

So far I have always found the attachments of the lens to be entirely severed without appreciable force and without accident or evil effect of any kind.

In ten or twelve operations lately made in this manner, two were quite soft, and in them a small portion of cortex was extruded from the minute wound in the capsule as the lens was pressed out of the globe, but this was easily removed and gave no trouble. I confidently recommend this procedure, and shall be glad to learn if it has ever been employed before.

215 Geary Street.

Notification of Infectious Diseases.—In London a physician receives a half-crown fee for each case of notification of contagious disease. In Connecticut also there is, or used to be, a fee of twenty-five cents for each notification of contagious disease and each birth certificate. If the New York authorities were equally just in their recognition of the doctor's right to be paid for his services there would doubtless be no need for the threats of prosecution by the health authorities, which are so often used to force physicians to obey the law in this respect.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 30, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	192	28
Cerebro-spinal meningitis	1	5
Measles	112	7
Diphtheria	101	33
Small-pox	6	0
Varicella	22	0
Pertussis	3	3
Erysipelas	2	0
Leprosy	0	0
Mumps	1	0

The Late Dr. David S. Smith.—The following minute was adopted at the last meeting of the Orange Mountain Medical Society: Dr. David S. Smith was born in Morris County, N. J., in 1831. He received his degree of M.D. in 1855, from the Medical Department of the University of New York. He commenced the practice of medicine at Irvington in 1855, continuing actively engaged in his professional work until his death from pneumonia, on December 8, 1891. He was married to Miss Laura Tichenor in 1861. Two children born to them died in childhood. The doctor was always interested in the public affairs in village, township, and county, from early manhood. He was superintendent of the schools in Irvington, and was a member of the Board of Freeholders for twelve years. He was an active member of the Road Board and the Lunacy Committee. There have been few interests or institutions in the county, in the inception or construction of which Dr. Smith has not taken an active part. He joined the Orange Mountain Medical Society in the first year of its existence, and was a regular and interested attendant at its meetings. He rarely allowed an opportunity for expressing his views on any subject to pass unimproved. He was always clear and certain in his opinions on medical subjects, and his judgment was generally correct. He carried the same earnestness and enthusiasm that marked his conduct in his relation to the general affairs of life, into his professional work. It is unusual to find so much shrewdness and administrative capacity combined with such broad humanity as characterized Dr. Smith. By the members of this Society he will be remembered particularly for his genial manner, his hearty humor, and his infectious laugh. We will cherish his memory and remember him as a member who never attended a meeting without making his presence felt by all present. William Pierson, John J. H. Love, *Committee;* J. W. Stickler, *Secretary.*

The Ptomaïne of the Tobacco Bacteria varies the Flavor.—A somewhat surprising investigation, which the Department of Agriculture is conducting, has to do with tobacco. An important part of the curing of tobacco is its fermentation, which occurs during the process known as "bulking." The leaves are packed closely together in large piles, and after a while the mass heats, the tobacco, as is said, "sweats," and the aromatic compounds which contribute to its flavor and odor are formed. The phenomena of fermentation are caused by bacteria. Each kind of tobacco has its bacteria, which give it aroma and flavor incidentally to feeding upon it. It has been ascertained by experiment that poor tobacco, when inoculated with the bacteria naturally belonging to fine tobacco, obtains the flavor and quality of the latter. Thus by a simple operation it may be easy to transform inferior leaves into first-class material for cigars which the consumer may believe are from the Vuelta Abajo.

The Practitioners' Club of Chicago entertained and elected to honorary membership its guest, Victor C. Vaughan, Ph.C., M.D., Dean of the Department of Medecine and Surgery, University of Michigan, at the regular monthly banquet, held at the Palmer House, December 28, 1891. The subject for the evening, "Methods of Medical Instruction and their Results," was enthusiastically discussed, a division of opinion being held as to the merits of the systems now in use. Didactic teaching, in the main, was well favored, but very much from the undisputed fact that clinical instruction falls far short of what it should be. The graded recitation course had its adherents and seems to be gaining good opinion. The results of medical instruction and the effects of specialism and book-medicine, were treated in lighter vein, being largely delineations of shortcomings, personal and otherwise. Dr. Vaughan is the first to receive the honorary gift of this club. Professor E. L. Holmes, President of Rush Medical College, presided as chairman.

Medical Schools in Turkey.—There are five medical schools in the Turkish Empire—one at Constantinople, one at Cairo, one at Aintab in Northern Syria, and two at Beyrout, one of the latter being Protestant and the other Roman Catholic. Only the Constantinople and Cairo institutions possess the right of granting a license to practise; the other three, which are in the hands of missionaries, can only give certificates of study, candidates having to go to Constantinople to be examined. A diploma conferred by the Cairo school gives only the right to practise in Egypt; if a doctor who has obtained a diploma at Cairo wishes to practise in other parts of the Turkish Empire, he must pass a further examination at Constantinople.

A Second Attack of Varicella.—Dr. Richard Neale reports, in *The Lancet* of November 21, 1891, that he was called recently to attend a family of children for chicken-pox, one of whom, a boy aged five and one-half years, had all the symptoms of the complaint—numerous vesicles and considerable drowsiness—the attack running its usual course. Ten days after the disappearance of the acute symptoms, and when the child was on the point of being allowed out, a profuse crop of vesicles appeared, which were far more numerous than on the first occasion, and the patient again went through all the stages of the original attack, the constitutional disturbance being but slight.

A Miracle Worker.—Señorita Teresa Urrea by name has appeared in a town in Sonora, Mexico, and is creating a great excitement among the country folk in the neighborhood of her father's hacienda. She is already credited with over three hundred cures of the lame, the halt, and the blind.

Diphtheria has been prevailing to an unusual extent in Milan during the past autumn, and previous to that there was a severe outbreak of typhoid fever. The water supply of the city is said to be exceptionally bad.

The International Executive Committee of the Pan-American Medical Congress.—The Committee on Organization of the Pan-American Medical Congress, at its meeting at St. Louis, last October, elected the following International Executive Committee: *The Argentine Republic*, Dr. Pedro Lagleyze, Buenos Ayres; *Bolivia*, Dr. Emelio di Tomassi, La Paz; *Brazil*, Dr. Carlos Costa, Rio de Janeiro; *British North America*, Dr. James F. W. Ross, Toronto; *British West Indies*, Dr. James A. De Wolf, Port of Spain; *Chili*, Dr. Moises Amaral, Santiago; *United States of Colombia*, Dr. P. M. Ibañez, Bogota; *Costa Rica*, Dr. Daniel Nuñez, San José; *Ecuador*, Dr. Ricardo Cucalon, Guayquil; *Guatemala*, Dr. José Monteris, Guatemala Neuva; *Hayti*, Dr. D. Lamothe, Port au Prince; *Spanish Honduras*, Dr. George Bernhardt, Tegucigalpa; *Mexico*, Dr. Tomás Noriega, City of Mexico; *Nicaragua*, Dr. J. I. Urtecho, Grenada; *Peru*, Dr. J. Casamira Ulloa, Lima; *Salvador*,

Dr. David J. Guzman, San Salvador; *Spanish West Indies*, Dr. Juan Santos Fernandez, Havana; *United States*, Dr. A. Vander Veer, Albany, N. Y.; *Uruguay*, Dr. Jacinto De Leon, Montevideo; *Venezuela*, Dr. Elias Rodriguez, Caracas; Hawaii, Paraguay, Santo Domingo, the Danish, Dutch, and French West Indies are not yet organized. Nominations of local officers have been received from a majority of all the members of the International Executive Committee, and a number of the lists have been confirmed by the Committee on Organization. These will be announced as rapidly as acceptances are received. CHARLES A. L. REED, *Secretary-General.*

The New York Ophthalmological Society.—At the annual meeting, held on Monday, January 11th, the following officers were elected: *President*, Dr. J. B. Emerson; *Vice-Presiaent*, Dr. Gorham Bacon; *Secretary and Treasurer*, Dr. Frank N. Lewis; *Committee on Admissions* Dr. H. D. Noyes, Dr. A. Mathewson, and Dr. C. E. Hackley.

The Electricians on Electrocution.—Our contempo raries in the electrical world are inclined to differ in opinion, as well as in sentiment, about the application of electricity for the carrying out of the death penalty. One weekly review of electricity is far more severe in its strictures than we have been. This journal speaks of the electrical executioners as "electro-butchers," and describes the details of the new process "of electrocution" as causing such horror and disgust that nothing would induce it to reproduce in its columns the latest account. Above all, it is shocked that any electrician could be found "of so degraded a mind as to lend any hand in so loathsome a task;" and "regrets extremely that any among those qualifying for the pursuit of the youngest, and in many respects the most advanced, of the sciences, should be found willing to put their knowledge to such a debased and debasing use."—*Lancet.*

Something New to Eat.—A new vegetable is about to be introduced to the people of the United States, through the Department of Agriculture. It is the root of the calla lily, which resembles somewhat in appearance the ordinary Irish tuber, with the addition of a few whiskers that have nothing to do with the qualities of the article as an esculent. It is more elongated, and when cut the interior is a trifle more viscid; but a section of it is so potato like you would not be likely to distinguish any difference. In cooking, it has first to be boiled in order to destroy certain acrid properties, after which it may be fried, roasted, baked, or what not, according to taste. Farmers in Florida have begun to raise these calla roots for market. The plants grow readily in swamps, and so thickly that the yield of a single flooded acre is enormous. They reproduce themselves by the multiplication of their bulbs underground, so that the grower has simply to dig up the offshoots and leave the parents to propagate anew. For centuries the Egyptians have cultivated a similar crop during the seasons of the Nile overflow, and at the present time calla lily bulbs are a common vegetable in Japanese markets. So prolific and palatable are they that their propagation in many parts of the United States, where conditions are favorable, may reasonably be looked forward to as an agricultural industry of the future.—*Portland Oregonian.*

The Ways of Invalids on the Riviera.—The medical adviser to the Paris *Galignani's Messenger* gives certain instructions to invalids visiting the Riviera which, if followed, would make them somewhat conspicuous objects among the orange and lilac groves of the sunny South. All invalids, we are told, should go indoors before the sun sets and not go out before it rises. When going from the sun into the shade they must put on additional clothing. Then they are advised to carry a sun umbrella, to wear smoked eye-glasses in the bright sunshine, and not to overdress or walk too fast. Lastly, when entering the house, not to remove their outer coverings at once. Unless the invalid is a lunatic, the advice about not going out before sunrise should be superfluous. How he is to adjust his clothing to the varying requirements of sun or shade we are not informed. It is cutting things rather fine to expect one to don a second overcoat while passing beneath the shade of a tree. The smoked spectacles are ugly, but they are part of the invalid's uniform. On the whole. it is doubtful whether it is worth travelling six or seven hundred miles to submit to such irksome restrictions.—*Hospital Gazette.*

A Model Death Certificate.—The following is a *verbatim* copy of a certificate of death in the case of a man in Maryland who accidentally shot himself:

"BALTIMORE COUNTIE November the 22. 1891

"This is to surtifie the. a gustc of the Peace of Baltimore countie held an inquest on the Body of William Harmer came to his Deth by a gone sot wond in his one hands. With too young frends Georg Young and Jacob Willis in company at or near John Allis fishing shore."

Embalming appears to be a very expensive luxury. A Russian newspaper states that Professor M. A. Popow, of Charkow, received a fee of 2,500 roubles ($1,250) for embalming the body of the late Grand Duke Nicholas. The fees of Professor A. L. Podres, of the same university, for medical attendance on the Grand Duke amounted to 2,000 roubles ($1,000). From this it might perhaps be inferred that in the case of royal personages it is sometimes considered less important to keep them alive than to preserve their remains when dead.—*British Medical Journal.*

A Scientist's Ruling Passion.—Dr. Richet, whose death occurred recently, made careful observations on his subjective symptoms, detailing them to his son and the attending physician in order that they might write them down. Each new sensation was minutely described, and even at the very end, when those about observed unmistakable signs of speedy dissolution, he surprised them all by saying, "You see I am dying."

Consultation with Juniors.—A correspondent raises the question as to the proper conduct of a medical man who is asked to call a younger member of the profession into consultation. The question, however, answers itself. Professional skill is not to be measured by years, and if it were, the inference would often, within certain limits, be in favor of the younger man. Again, it may be disagreeable for a practitioner to be asked to consult with one inferior to himself, so far as degrees are concerned, in the medical hierarchy, but he can always vindicate his dignity by withdrawing from the case. The patient's wish in such a matter is law, and he cannot be expected to enter into petty details of precedence when health and life are conceived to be at stake.—*Medical Press.*

For External Use.—In some parts of Germany all fluid remedies for external use must be put up in hexagonal bottles with ribbed sides, and having a red label. Internal remedies, on the other hand, are dispensed in smooth round bottles with a white label. Unfortunately, there are people so stupid or so careless that even this will not save them from making mistakes.

A Simple Cure.—A case of incontinence of urine in a little girl has been related to us. The attending physician prescribed a number of remedies, but the urine persisted in coming, drop by drop. Another physician who was called in examined the child, and removed from the urethra a hairpin which had kept it patent. It is needless to add that the disease was cured.—*Weekly Medical Review.*

What in the World Is It?—The Paris correspondent of *The Lancet* speaks of infancy as the period associated with "the wearing of swaddling clothes, or the sucking of that comforting toy called, I believe, by our American cousins, a 'chew-gum.'"

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CONGENITAL BILATERAL AND SYMMETRICAL CARTILAGES ON THE NECK, AND THEIR MORPHOLOGICAL SIGNIFICANCE.[1]

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SINCE embryology has revealed the development of the single parts of the human body, and comparative anatomy has brought out the signification of some organs which do not reach their full development in man, abnormities hitherto not understood or misapprehended have been explained. Even such abnormities which considered as possible, had been *a priori* constructed, have been recorded since, thus proving the correctness of the theory.

Abnormities of development from the ideal construction always have much interest, especially when there is some regularity in the reappearance of them, so that they form a well-determined class, which of course raises the idea in our mind that a certain cause is common to all.

But in embryological studies comparative anatomy must always have a leading place, as Professor Milnes Marshall so aptly expressed in his address to the Biological Section at the meeting of the British Association for the Advancement of Science.[2]

"Embryology has thriven mightily of late years; but the watching of all the processes of the development was of trifling account, compared with the great generalization, which showed that the development of animals had a far higher meaning. The phases through which an animal passed in its own development were no accidental freaks, but represented more or less closely, in more or less modified manner, the successive ancestral stages through which the present condition had been acquired. Evolution told us that each animal had a pedigree in the past, and embryology revealed to us this ancestry, because every animal in its own development revealed this history."

From this standpoint we shall examine the present case:

History.—John B——, aged forty-eight, laborer on the railroad, received an injury in an accident, crushing his great toe. The primary operation giving no satisfactory result, he was transferred to the Alexian Brothers Hospital, where I happened to be present at the operation performed by Dr. Oswaldt. While he was under chloroform I noticed on the right side of his neck a projecting spot, on the inner border of the sterno cleido mastoideus, about on the level of the cartilago cricoideo, which proved to be a little hard body, movable but closely connected with the deeper tissues. The first idea was, it might be a foreign body, but when we found a corresponding small body on the left side I suggested the removal of a particle, in order to make a microscopical examination. When the skin was cut and the superficial tissue split, we noticed that the small body was very adherent to the deeper tissue, and with a part going farther down behind the muscle.

The removed particle gave the following appearance when examined: A cut through the specimen shows that the same is a part of a reticulated cartilage, on one side covered with perichondrium, which contains more cellular elements than usual. The boundary between the cartilage and the perichondrium is very well defined, forming a sharp line. (Only in one specimen of six can cartilage tissue be seen breaking through this line.) The cartilage itself has many small single cells near the boundary, the nuclei being spindle-shaped and with the long axis parallel to the boundary line, and on some points this direction extends downward toward the centre, forming bundles of cells lying in a network of fine connective tissue, these bundles being surrounded by a coarser network. The whole represents what we histologically call reticulated cartilage (cartilage réticulé—Netzknorpel). The examination of the patient showed that there was no trace of a fistula of the neck, no tumor, no enlarged glands in this region. The cartilage of the right side, that is the small particle which was left under the inner border of the sterno-cleido-mastoideus, was firmly connected with the tissues below. The left one was more flattened, larger, and had some serrations on the exterior edge; it was movable, but held by an elastic portion under the muscle.

When the patient swallowed the cartilages did not move, showing that they were not attached to the tracheal tractus. There was no other abnormity on the body. The patient had noticed these little particles himself, when a small boy, and says that they have not apparently grown since.

Cases of congenital cartilages on the neck have been described by different writers, but I find only very few cases which resemble the present. Those recorded by Poirier and Retterer,[1] were either not symmetrical or were in connection with other malformations or tumors of the neck, as the congenital branchial fistules and cysts. The latter have been stucied only of late, and only understood when through embryological facts it was ascertained, that they were products of the arrest of the development or subsequent changes of that pathological condition. In such descriptions I find the first trace of this abnormity.

FIG. 1.

Heusinger,[2] who first investigated this matter thoroughly, gave at that early period a good and probable explanation.

[1] Read before the Chicago Medical Society, November 2, 1891. MEDICAL RECORD, November 15, 1890.

[1] Poirier et Retterer: Cartilage branchial bilatéral et symmétrique, Journal d'Anat. et Phys. Paris, 1890, xxvi., 49–62.

[2] Heusinger: Archiv für path. Anatomie und Physiol., Bd. 33, S. 179 und 441.

Since the attention of the embryologists was drawn to the subject, the opinions of all the authors agreed in that one point, that the abnormities have something to do with branchial arches, but disagree concerning the way in which they are derived from the same. In order to investigate this I give an account of the embryological facts, which are homologous throughout the whole system of such progressive modifications, complications, and adaptations, as occur under well-known laws. The main law of development of the body is that of a segmentation of the frame of the same; the segments remain more simple in the lower classes of animals, but gradually differentiate themselves in the higher, so that two members of two different classes at their full development are very unlike, but, as each embryo repeats the whole ancestral differentiation, they are at a certain stage of the development very similar.

Concerning the evolution of the segments, which have relation to our abnormities, we follow the explanation of Gegenbauer.[1]

A number of such primitive segments form from a certain class, beginning with a distinct head and neck at the commencement of the alimentary canal, both being formed by a certain number of arch-like bodies similar to the ribs of the vertebral column, being at first primitively cartilaginous; but at the same time they are not altogether homodynamous with ribs. The various arches differ in form, but they all give indications of having been primitively similar. Their difference in form is due to a differentiation which has been brought about by adaption to different conditions. These arches, being connected with the most anterior portion of the axial skeleton, form the organs of support for that portion of the alimentary canal as well as the respiratory cavity. The number of arches and the backward extension of this apparatus depend on the size of this respiratory cavity. The first type is found in the acrania (amphiosus lanceolatus). In this framework there is a cartilaginous arch around the mouth, that is, in its most anterior portion; this arch is composed of cartilaginous rods, which are directed forward. The rest of the apparatus is formed of a homogeneous substance, which forms, as in balanoglossus, a complicated lattice-work. The branchial bars of either side are independent of those on the other, that is to say, they are not united along the ventral line.

We cannot derive the second type which obtains in the craniola directly from this. In its earliest stage it is made up of cartilaginous pieces only; these do not form as large a number of arches as exist in amphioxus, and are, while completely symmetrical as regards their arrangement, united ventrally by a copula.

In the cyclostomata the branchial skeleton is made up of complicated cartilaginous bars, which are connected inferiorly with one another as well as with either side of the spinal column superiorly. Owing to their superficial position they may be spoken of as forming an external branchial framework. Very evident signs of this are retained by the selachii, but in them there is another or internal organ of support, which is found in all the rest of the vertebrata. The various arches present indications of their primitive similarity, this disappears in consequence of the gradual change in their functional relation, which is due to a division of labor. All these arches evidently had the same original function; their relation to the respiratory apparatus has not disappeared in the first pair, which have been duly converted into jaws. The hinder arches also have gradually lost their functional and anatomical characters. It is therefore reasonable to suppose that this is but the last of a series of reductions, which first commenced on a much larger number of arches. This view is supported by a comparison with amphioxus, as well as by the consideration, to which we are led by the studies of the branchial apparatus and peripheral nervous system. As we pass through the fishes to the amphibia, we may note how this apparatus gradually loses its primitive relations, while in the reptilia and all higher forms it has no relations at all to the respiratory organs.

What becomes of these arches in the higher classes, and particularly in the human embryo?

At a certain early stage of the development that part of the body which afterward forms the face and neck consists of four indifferent arch-like bodies; the way by which they develop into their final shape has been studied with the greatest detail.

At first the arches, which close in the median anterior line, are separated by grooves or clefts. It has not been ascertained, whether or not there is a real cleft or a very thin but closing membrane between the single arches, though the opinion of the best embryologists, as His,[2] Kölliker,[3] Born,[4] is that in the human embryo there are no clefts. H. Foll,[5] P. de Meuron,[6] and Katschenko[7] stated, through their studies made on sections which had been prepared with the best technological method, that there is a real canal and that the epithelium of the entoderm passes directly over into the ectoderm. This opening is only during an early period and with the exception of the first, closes again.

After the fourth week a further differentiation of the arches takes place. The first and second arches are growing fast, and while the upper one overlaps the lower one on the outside, the reverse takes place inside, so that they slide one into the other like the tubes of a telescope. In consequence of this unequal growth of the arches a sinus is formed in front, in the depth of which the third and fourth arch are found, while its entrance is bounded anteriorly by the second or hyoid arch. The sinus is called sinus cervicalis (Rabl[8]). The hyoid arch extends into a small process, which overlaps the sinus cervicalis and closes the same in connection with the retro-bronchial processes and the thoracic wall, which arches over the sinus (Kauthak[9]).

If this sinus remains open a fistula of the neck results, which would lead into the pharynx if one of the clefts remained open or if the membrane breaks. From the accessory organs, which are the products of the arches, the concha of the ear is most interesting for us, as many writers are inclined to bring abnormities like the present into relation with the same. And, in fact, the first development of the concha bears much similarity with the symmetrical cartilages. We are indebted to Moldenhauer[9] and His[10] and Katschenko[11] for their thorough studies of this subject. According to them, around the external lateral end of the first cleft a small ridge arises, containing some cartilaginous nodules, which getting more and more distant from the surface, form the tragus, antitragus, helix, etc.

Having discussed the development of the parts of the body which have some reference to our case, we are going to answer the question, Which is the part from which our cartilages are derived, and what is their pathological significance?

There are *a priori* several possibilities:

That they are aberring germs in the sense of Cohnheim, can be *a limine* rejected, on account of the symmetry and regular reappearance in the same place.

Another possibility, which is more comprehensible than

[1] Gegenbauer: Comparative Anatomy, pp. 445 and 468.

[1] His: Anatomie menschlicher Embryonen. 1881.
[2] Kölliker: Grundriss der Entwicklungs geschichte des Menschen u. der höheren Thiere. 1882.
[3] Born: Ueber die Derivate der embryonalen Schlundbogen und Schlundspalten bei Säugethieren. Arch. f. mikr. An., Bd. xxii.
[4] Quoted by Poirier et Retterer.
[5] Quoted by Poirier et Retterer.
[6] Katschenko: Das Shirksal der embryonalen Schlundspalten bei Säugethieren. Archiv f. mikr. Anat., Bd. xxx.
[7] Rabl: Zur Bildungs geschichte des Halses, Prager Med. Wochenschrift, No. 52. 1886, No. 1, 1887.
[8] Kauthak: The Thyreo-glossal Duct, Journal of Anatomy and Physiology, 1891, vol. xxv
[9] Moldenhauer: Zur Entwicklung des mittleren u. äusseren Ohres, Morph. Jahrb., 1877.
[10] His: Anatomie menschlicher Embryonen.
[11] Katschenko: Loc. cit.

probable, is that these symmetric cartilages we meet with are aberring particles of a symmetric superficial cartilaginous tissue of the same histological construction of the neighborhood, and that would be the external ear, or perhaps an analogue of the ear derived from one of the lower arches. There are really often found cartilaginous nodules (supernumerary cartilages) in the neighborhood of the ear, and that they even can imitate the shape of the concha a case proves which was described by James Cantlic, from Hong-Kong, in the *Lancet*, 1890.[1]

Many authors are of either one of these opinions. Kostanecky and Mielecky[2] gathered, in their very instructive paper on congenital fistules of the neck, the literature about this subject and offered their own opinion.

According to them, Heusinger, who first noticed this abnormity at all, adjudged that any visceral arch can form cartilages, if the original cartilage fails to disappear and afterward grows. On account of the position they form the third arch. Broca's opinion is that inasmuch as the fourth visceral arch does not form any cartilaginous nor bony parts in the embryo, the cartilage of this arch sometimes remains abnormally, but generally disappears (Cusset).

Callendar is of the opinion that these cartilages are formed from those which are intended for the development of the hyoid bone and larynx by differentiation. Bland Sutton points out that in the embryo every cleft is covered by the higher one by operculum, which retains the permanent state in the selachii. He considers the auricle as a big operculum modified for hearing purposes, and he supposes that also the other clefts are covered by such opercula. He calls them supernumerary auricles. Hennes considers them as residues of embryonal branchial arches, and as their typical position corresponds with the congenital fistule of the neck, the origin may be the second arch or cleft. Virchow, who observed a case of a cyst containing an oily fluid with a cartilage plate in its wall, which was found in front of the carotid artery, regards the whole as a meatus auditorius externus with the tragus, and calls it an auricular teratom. He says: "There is no doubt, if one compares a number of such abnormities, that particles of the ear are met with which have been destined for the external canal, but through a deviation in the first formation took a heterotop position," and according to this view, he calls them abgesprengte auriculäre Enchondrome (misplaced auricular enchondromata).

Finally, Kostanecky and Mielecky give their own opinion: "We believe," they say, "that as there never was noticed a relation between these apophyses and the visceral skeleton, and the occurrence of such processes does not involve any disturbances or anomalies in the development of the visceral skeleton, the supposition that these cartilages are isolated, and afterward independently growing parts of the visceral skeleton, is false, and that we have to do with an embryonal growth. But we have no reliable cause to suppose that these growths consist in a repetition of parts of the visceral skeleton itself. On account of their generally very superficial position, we can exclude a participation of the third or fourth arch as origin, and must refer to the operculum (Kiemendeckelfortsatz) of the second arch for those of the neck, for those of the face to the operculum of the first arch. With regard to the origin from the same arches, their position and microscopical texture, we believe, therefore, that they are heterotopic homologies of those parts, from which the auricle is developed, wherefore their name as auricular anhänge abnorm, accessorial ears, seems to be justified."

Poirier and Retterer,[1] who found an abnormity exactly resembling the present on the dissection-table, were able to investigate the case thoroughly. The dissection showed that the fibres of the platysma myoides were going below the surface of the little tumors, the external jugular vein in front of them, the adherence to the aponeuroses of the sterno-cleido-mastoid was very intimate, and at last the fibrous tissue of the hard masses extending deeply, was lost trace of in the level of the sheath of the large vessels. Larynx and pharynx showed no connection nor abnormity whatever. The outer portion of the cartilages was round-shaped, the inner portion more flattened. After minute examination of all the points which have some reference to this question, they reach the conclusion that these little tumors, having much resemblance to those apophyses which give origin to the external ear, are of the same morphological significance, being only derived from one of the last arches.

If we make a *résumé* of these views, we find that, with a few exceptions, all the authors refer to the operculum of one of the arches as the origin of the congenital symmetric cartilages.

The opercula are symmetrical, it is true, the tissue is fibro-cartilage in the ear and also in these growths, but nevertheless the other explanation seems more plausible.

If we look at the matter from the standpoint of comparative anatomy, we must say that the idea of a reappearance of a second ear, which does not exist in the whole series of the system of animals, is somewhat affected; we find that cartilages on the neck appear in all the classes of animals, and while very exceptional in man, they are, as Heusinger[3] has already observed, more frequent in some other classes of the mammalia, and still more so in the lower classes; they are the same cartilages which support the respiratory system in the fishes, and belong therefore to the visceral skeleton.

Kostanecky observes that they are generally very superficial, while in the present case, and in all the rest of them, it was noticed that they extended very deeply and even down to the sheath of the large vessels, as in Virchow's case.

Duplay[4] describes a case of a child five years of age, with an abnormity like the present, where the cartilages were movable, but with a part growing far under the sterno-cleido-mastoid.

P. Buttersack[5] observed a case, twenty-three years of age, and made the same observation, that the deeper part of the cartilage was in intimate connection with the lower tissues.

Poirier et Retterer[6] make the same remark, that the cartilages extended down into the sheath of the vessels. An abnormity of a second, parallel ear has no analogue in the evolution; polyotie has quite another meaning.

Schultze,[7] one of the oldest writers on this subject, gave, without knowing the characteristic details of the embryological development, this explanation of the abnormity, of which he had a case. He says: "About the genetic significance, we can say that we have to do with an original abnormity of the branchial arches. They are neither growths *sensu strictiori*, nor accidental, nor derived from the auricle, as they are nowhere in connection with the latter."

We have to deal with an atavistic phenomenon, then. What is atavism? Atavism is the reappearance of anatomico-physiological characters, either positive or negative,

[1] Unilateral absence of ear, bilateral supernumerary auricles and developmental deformity of right side of face and features, by James Cantlic, F.R.C.S.

A Chinese male, thirty-eight years of age, had, one inch and a half in front of the lip of the mastoid process, and one inch below the level of the same, a heap of tough subcutaneous cartilaginous tissue with a depression or concha near the centre. This might be regarded as the representative of the right missing ear, but that it is not so may be seen by examining and studying the conditions met with on the left side. The left side shows a perfect ear, but in front of that again are subcutaneous tough cartilaginous tissues with a central depression (concha-like) almost identical with the excrescence on the right.

[2] V. Kostanecky und v. Mielecky: Die angeborenen Kiemenfisteln, etc., Archiv f. pathol. Anat., 1890, Bd. 120, p. 385, u. Bd. 121, p. 55 u. 247.

[1] Poirier et Retterer: Loc. cit.
[3] Heusinger: Loc. cit.
[4] Duplay: Archives générales de médecine, 1875, vol. i., p. 84.
[5] P. Buttersack: Virchow's Archiv, Bd. 107, p. 206.
[6] Poirier et Retterer: Loc. cit.
[7] Max Schultze: Virchow's Archiv, Bd. 20, 1861, p. 378.

n an individual or in a group of such, which were not characters of their immediate parents, but of their direct or collateral ancestors. Darwin[1] states that all the rudimentary organs, useless for the animal, are atavistic, and which he compares them very aptly to the letters of a word, which are saved in the writing, but lost in the pronunciation, and are merely the clew which leads to their etymology. This etymology of the animals is given in the series of animals by those phenomenal appearances of what we call regressive metamorphoses; that is, it seems that in the development of animals a tendency is produced toward the superior original state. We know, for instance, from the studies of P. Fischer, that the embryo of the oyster represents a more perfect animal than the adult. It possesses a locomotor apparatus which allows him to swim rapidly, and has ear and eye which disappear afterward. Our abnormity would come under the head of reversion of the Darwinian subdivisions. Our conclusion is, therefore, that our cartilages are reversionary or rudimentary parts of the branchial cartilage system.

The arch to which they belong can be only the third or fourth one. We have to answer the question, in what connection they are to the branchial cysts and fistules. Many writers have described cysts with cartilaginous particles in the wall of the same, and fistules with cartilages in the edges have been observed also. That such abnormities are combined is only a proof of the theoretical explanation that they are rudiments, as the fistules are nothing but modified clefts, and cysts only pathological changes of preformed epithelial inclusions or embryonal cavities. But the symmetric, and reappearing with such regularity on the same place, cartilages are quite different from the accidental group of cartilaginous cells, which can just as well be connective tissue changed into cartilage. Regarding the question, if such cartilages occasionally can have some pathological significance, there are some very interesting observations. Since the attention of surgeons has been called to such abnormal residues of the development, some until then misjudged tumors of the neck have been satisfactorily explained. Volkmann's branchiogen carcinoma, which originates on the neck and, as it has been proved, takes its origin from remaining embryonal epithelial tissue, has been observed several times and proves Cohnheim's theory of the cause of the tumors.[2]

Branchiogen enchondroma is a term which has not been used very often in pathology, but of which cases are on record already, and which will be met in future perhaps more often, when attention is called to it. Zahn describes such a case, and I find in the earlier literature several cases which could be classed under this head, and could be started from such a matrix as our abnormal cartilages.[3] Heusinger[4] describes a case of a large tumor of the neck consisting of homogeneous cartilage, which contained hundreds of small cysts, and he called this tumor a cystoid enchondrom. The genesis, according to his term, verknorpettes Cystoid, would be that it was primarily a cyst, perhaps a multilocular cyst, in the walls of which cartilage tissue was growing; but it seems that it was rather a branchiogen enchondroma with cystic degeneration, which always takes place if the nutrition is at variance with the growth. In the same paper, Heusinger quotes another such case, and in his division of cystic growths the cartilaginous cysts with different contents form one subdivision. Zahn mentions that among the cases of tumors of the neck, the case of one operated on by H. J. Schäffer and examined by C. O. Weber, seems to be such a tumor as has just been described. It was a growth of the size of an egg on the side of the neck of a young man, movable under the skin, for several years growing steadily without pain, and which, though above the lower lobe of the parotid and in front of it, was in no connection with the latter. The hyaline, partly granular cartilaginous matrix changed toward the centre into more reticular and fibrous cartilage, the fibres crossing in different directions.

The enchondromatous tumors are more peculiar to the juvenile age. According to Virchow, groups of cartilaginous cells, which are included in bone-tissue, sometimes develop into enchondromata during puberty, and Zahn believes that this law could have the same value for tumors of the branchial arches. Whether a traumatism has an influence or not it is hard to decide, as the trauma and the cold are the trivial and insignificant causes which are generally made responsible where we cannot find any better. The statistics and the histories

FIG. 2.—*a*, Perichondrium; *b*, cellul. sub-perich. primit.; *c*, reticulum.

of the cases recorded until now would speak against both views, as in fourteen cases eight had passed the puberal age, and in many cases, though the cartilages have been exposed to traumatic influences, and in the case of P. Buttersack had been attacked very roughly, they had not developed into enchondromata.

But we know especially about the cartilaginous tissue, more than about any other in regard to its capacity to grow, from the experiments of Zahn and Leopold, made in the institute of Cohnheim. It was stated that cartilaginous tissue, taken from an unborn embryo, grew out into an enchondromatous tumor when implanted into the peritoneal cavity or corneal chamber of the eye. May it not be that these embryonal cells exist in such groups included in the normal tissue, and, if they do not lose their faculty to grow, or if they are irritated by some cause unknown yet, really grow out into the tumor. It is certainly remarkable, that we sometimes see such beginning of a tumor, if we can call it so. Zahn, at least, explains in one of his cases the fact that he found cartilage cells and groups of cells spread in the perichondrium, this way, and in my specimens I was able to find such a condition, and I explained it independently in the same way. We see the small cells right under the perichondrial boundary line very well defined (Fig. 2), and in one specimen we see this line broken and cartilage cells extending into the perichondrium, particularly those small cells which are the primitive or fundamental cells (Fig. 3).

[1] Darwin: Descent of Man.

[2] Cohnheim: Lectures on General Pathology, ii., p. 749. True, if you ask me wherein the abnormality in the disposition of the embryo consists that becomes the starting-point and cause of a tumor, I can only answer with hypotheses; the simplest view appears to me undoubtedly to be, that in an early stage of embryonic development, more cells are produced than are required for building up the part concerned, so that there remains unappropriated a quantity of cells—it may be very few in number—which, owing to their embryonic character, are endowed with a marked capacity for proliferation.

[3] There have been enchondromata observed in the parotis and testicle, and other organs which originally do not contain cartilaginous tissue, and especially in the parotis. They have been explained as remnants of the branchial arches, which explanation has been rejected on account of satisfactory reasons, but the whole matter is not cleared up fully yet.

[4] Heusinger: Loc. cit.

Whether these cells, which at any rate are abnormal, are the beginning or the starting-point of a tumor, or only supernumerary cells in the sense of Cohnheim, which can grow out into a tumor, I will not decide, but the shade

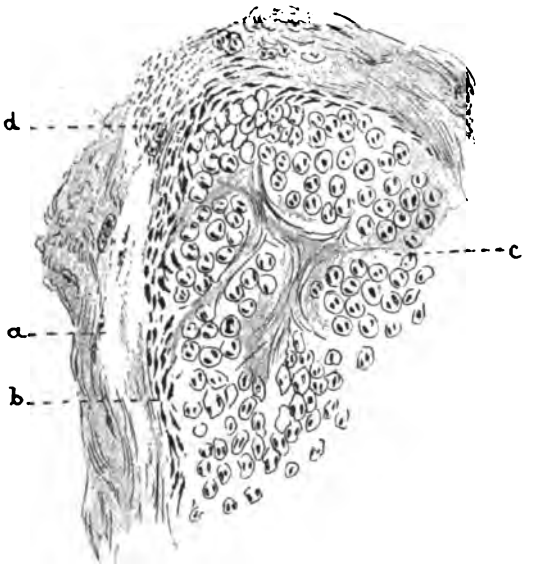


FIG. 3.—*a*, Perichondrium; *b*, cellul. sub-perich. primit.; *c*, reticulum; *d*, cellul. sub-perich. luxuriantes.

between these two possibilities is very slight. It may be that further observation of cases like the present will throw more light upon this question.

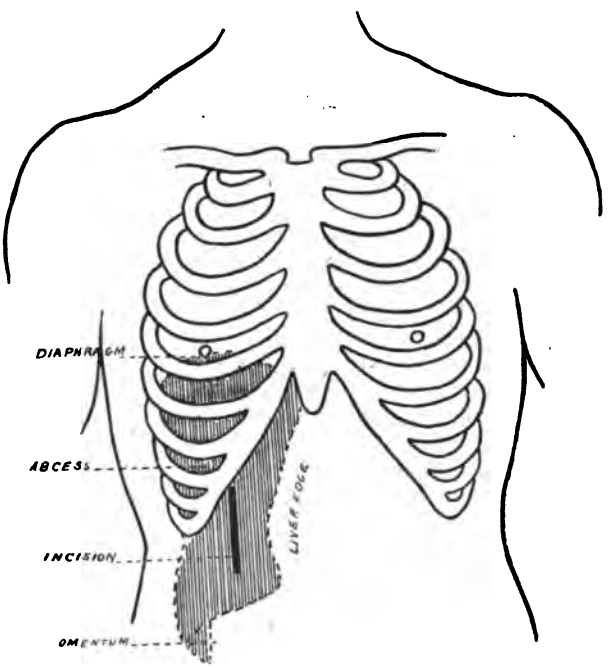
REMARKS ON SUB-DIAPHRAGMATIC AND RECTAL ABSCESSES OF APPENDICAL ORIGIN.[1]

By ROBERT F. WEIR, M.D.,

SURGEON TO THE NEW YORK HOSPITAL, ETC.

MUCH thought has been given of late years to the subject of appendicitis, and a large experience has already been gathered in aid of the proper treatment of this disease. Much, however, remains to be investigated, and points of importance in the natural history of the disease, particularly in the so-called catarrhal form, are yet unsettled. Every surgeon who has had to see, or operate on, many of these cases appreciates, however, to a very strong degree the irregularities and variations that may present themselves in any given instance. Hence for one reason the great interest this department of surgery has for an operator. He feels that his highest skill may be called for at any moment. He has learned that the apparently late-forming tumor, which seemingly has glued itself to the abdominal parietes, and which presents itself at first sight as an abscess in a safe condition for a simple incision, cannot always be easily differentiated from a deeper abscess that may require the opening of the general peritoneal cavity in order to reach it. He knows, too, that many an abscess of like origin, especially if its opening is postponed beyond a week's time, or if the local symptoms have progressed with rapidity (I refer chiefly to a decided enlargement of the tumor), may demand the establishment of a lumbar counter-opening in order to effect safe and proper drainage. Unexpectedly, there may happen, among the variations occurring, conditions like those which I beg now to lay before you, in a brief detail of two cases that have come under my charge in the last fortnight. The first case is one where the abscess located itself between the diaphragm and the liver. It was found in the person of a man, aged about fifty, a patient of Dr. Pierson, of Roselle, N. J., from whom the history was obtained that he had had, for several years, attacks of colicky pain of short duration and without jaundice, which were most acutely felt across the epigastrium, and never in the iliac fossæ, and without gastric symptoms. Some two weeks before I saw him, that is to say, on November 7th, he was seized with a severe pain in the right iliac region, with vomiting and fever. The acute symptoms, however, subsided under rest and anodynes, and he was considered to be doing fairly well, though kept in bed by weakness. His temperature remained, after the fifth day, generally near the normal, but the tenderness persisted in the cæcal region, and there was inability to urinate, save with the catheter; no tumor was felt there, nor were there any chills. Two days before I was summoned the pain increased in severity and vomiting set in, which persisted and increased in frequency, and it was thought, moreover, to have a fecal odor.

At my examination, November 25th, I found the patient vomiting a bilious green fluid every ten or fifteen minutes, having a rank odor. His temperature was nearly normal, 99° F.; pulse, 130; the facial expression was bad, and he had an occasional hiccough. The abdomen was generally distended, though soft and free from pain on the left side. In the right iliac fossa nothing was to be felt, but by percussion dulness was elicited, running from the liver line some three or four inches below the ribs and extending toward the median line. Above, in the epigastrium, there was a line of resonance reaching outward half-way along the ribs. In the right flank, between the ilium and the ribs, was flatness on percussion, but as tenderness was not here elicited it was doubtful if the abscess cavity extended so far. I was puzzled in outlining the mass, as no edge of a tumor could be plainly made out, even after ether had been administered, and percussion even gave a varied note. With this, there was over the belly of the rectus, just



above the umbilicus, some redness and pitting. Nothing was felt per rectum. The diagnosis ventured on was that there was a sub-hepatic abscess of either appendical origin, or from perforative ulceration of the gall-bladder, or perhaps only a large empyema of the gall bladder itself. His antecedent colicky pains squinted somewhat in the direction of an hepatic origin of the abscess. An incision was accordingly made from the ribs to the umbilicus, along the outer edge of the right rectus muscle. The deeper tissues of the abdominal parietes were found œdematous, and on opening with a small incision the peritoneum, gas in large quantities and pus intolerably fetid but not fecal in odor, were discharged. The fluid was allowed to escape slowly, as the jet showed the great

[1] Presented at the meeting of the Practitioners' Society, held December 4, 1891.

tension of the abscess-walls and its severe pressure on neighboring parts. After a quart of pus had escaped, the opening was enlarged and nearly another quart was evacuated. The finger was then introduced, and subsequently, as this failed to reach the bottom of the abscess, a long abdominal glass irrigator was passed in for exploratory purposes. It reached upward to the right nipple and also to the median line of the thorax, and nearly to the linea alba in the abdomen, and then was swept back to the renal region and downward to the crest of the ilium. The wound in the peritoneum was enlarged upward and downward to the length of the original skin incision, and an inspection of the abscess cavity better secured. It was seen to be a subdiaphragmatic abscess, the interior wall of which was formed above by the liver, which had been crowded inward and backward and below by the thickened omentum, which, by its adhesions, especially near the umbilicus and a little below this point, had shut off the general peritoneal cavity. In crowding toward the iliac fossa, which, it will be remembered, even under ether gave no decided evidence of tumor in that region, a track just large enough to admit the exploring finger was detected, leading evidently to the appendix. A counter-opening of considerable size was made in the lumbar region, and through this two large rubber tubes were introduced, one of which was passed into the track leading to the iliac fossa, and the other to the large abscess cavity. Two other tubes were put in through the anterior opening, one running toward the median line and the other between the liver and diaphragm. A final irrigation of boiled water was made, iodoform gauze packed around tubes, and the anterior wound partially closed. The patient was much exhausted, but by hot rectal stimulant enemata, elevation of the limbs, etc., and general heat, reaction was established after a few hours.

I learned, however, that his exhaustion, after a temporary improvement of twenty-four hours with cessation of vomiting and hiccough, recurred, and that the patient succumbed November 27th. No autopsy.

Sub-diaphragmatic abscesses arising from a perforated or gangrenous appendix have not infrequently been recognized at autopsies, and have been best described by Leyden; but until the publication of Dr. Coupeland's cases in the *British Medical Journal* of March 23, 1889, only ill-directed surgical efforts were made for their relief. Since that time a small number of such cases have been reported, and their frequent origin from appendicitis admitted. In an article "On the Treatment of the So-called Perityphlitic Abscesses"[1] I called attention, some two years ago, in analyzing a hundred autopsies from such abscesses, to the fact that in seven instances there had been found purulent depots of appendical origin running up to and behind the liver. These suppurating tracks I found were in each of these cases entirely within the peritoneal cavity, though Coupeland speaks of such abscesses as though they were to be found outside the peritoneum. This I believe to be an exceptional route, and to be accounted for as are the ordinary extra-peritoneal appendical abscesses, by necrosis destroying the parietal peritoneum and in this way allowing access to the extra-peritoneal planes. This view, which was the cause of much contention on my part in the early discussions on perityphlitis, is now so well established as to need no further discussion, except in such a special case as has been presented.

The route by which the abscess reached the liver in this case is, I believe, the one that will be most frequently encountered. It is true that in the autopsies referred to the pus had travelled along the right dorsal gutter to reach up behind the liver, but it will be remembered, in reference to this point, that about a year ago it was my opportunity to present to this Society four cases of abscesses from perforation of the gall-bladder which had pursued a course between the parietal peritoneum and the omenteum downward to the iliac fossa, where they simulated an appendicitis. Another circumstance which surgeons familiar with abscesses originating in the appendix will corroborate, is that not infrequently purulent collections of this latter character will be found, either by reason of a short omentum or from perforation of the omentum, to be situated outside the apron, that is to say, between it and the parietes. In this way, if adhesions are insufficient to bar its progress, the pus may work its way upward as described. I would like here to refer to another point. In the treatment of this very large abscess occurred an incident which strongly confirms me in my long-acquired disbelief in the alleged usefulness of the aspirator needle. As I was about to make my incision it was suggested that aspiration be first made. Now, I am loath to use the instrument, as its negative results often suggest surgical delay, and its chance of help in cases where help is most needed, as in small collections of pus, and where other symptoms are sufficiently present to determine a course of action, is a very slight one. In fact, my only reason for its employment is not as an aid to diagnosis, but as a means to convince a timid or doubting practitioner, or the family of the patient, that pus actually exists in the tumefaction that may be in question. I made in this case a puncture and drew only blood. The subsequent operation revealed I had crossed a thin portion of the abscess and had plunged into the liver, and yet two quarts of pus were present. The withdrawal of the needle was too quick to permit pus enough to appear to show in the blood already aspirated.

The second case which I wish to bring to your notice is one where the abscess not only extended from the iliac fossa to the under-surface of the liver, but also by a separate formation projected toward the rectum, where, by an additional incision, it was opened and drained. Rectal abscesses of appendical origin are not common. Pepper and Lange have already urged, and justly, the necessity of a rectal examination in all cases of appendicitis, and this applies particularly to its late stages. The latter surgeon has, moreover, presented several cases where the abscess was successfully treated by the rectal incision only. Its rarity is shown by the fact of this being the first time in which it has occurred to me in a somewhat large number of abscesses originating in the right iliac fossa. And in this case, indeed, I was nearly misled, for though thought of when beginning the operation, I purposely refrained from exploring the rectum, not only to preserve my fingers aseptic, but also because from its non-occurrence in my other cases, I considered it improbable to be present in this one, and it was only at the end of the operation work in the abdominal parietes that it was felt that the surgical rule should be complied with to render the cure complete. The nearness to error only confirms the value of the rectal examination in all cases.

The history of the case is as follows:

A boy, aged thirteen, was admitted to the New York Hospital, November 28, 1891, with the history furnished by his physician, Dr. Nammack—who had vainly urged earlier interference—that he had been seized for the first time with right iliac pain with vomiting on November 21st. Until sent to the hospital he had grown steadily worse, and though the vomiting had ceased his fever and prostration had continued. When examined by the house surgeon his temperature was 102⅘° F., pulse, 120. The right side of the belly was so tender as to preclude much handling. He was sent to the operating-room, the surgical clinic being then pending. I found his abdomen distended, markedly so on right side, with a very tense, tender right rectus muscle which did not soften under anæsthesia; and though considerable resistance to pressure was felt all along this muscle and to its outer side, yet no distinct tumor could be recognized. The left side of the abdomen, though tympanitic, was comparatively painless. Percussion was resonant over the whole surface. A slight flatness of note was noticed over the bladder. An incision three inches in length along the outer border of the right rectus muscle was made, running from the umbilicus downward, and as the somewhat thickened peritoneum was opened

[1] On the Treatment of the So-called Perityphlitic Abscesses, Medical News, April 27, 1889.

a gush of foul gas and fetid pus—the latter amounting to about twelve ounces—took place. The wound was opened its full extent, when the cæcum, covered by lymph, was forced into the incision. The finger introduced showed this portion of the intestines to be adherent to the parietes mesially. Downward toward the appendix ran a track of limited length, and upward toward the ends of the floating ribs was found a narrow channel, which was ascertained to lead into an abscess cavity of considerable size, and which was bounded above by the under-surface of the liver, and which ran some distance toward the median line and also passed well posteriorly. A long forceps was crowded backward forcibly enough, with a boring motion, to cause it to emerge beneath the skin just below the middle of the twelfth rib. It was cut down upon from without until the end of the forceps emerged. A rubber tube of large size was then drawn through from behind forward, so as to thoroughly drain the cavity. Irrigation with boiled water was then made, another drainage-tube carried upward and inward toward the liver, and a third toward the iliac fossa. The appendix was not seen and no attempt was made, for obvious reasons, to excise it. The central portion of the wound was carefully closed by silk sutures and the antiseptic dressings applied.

In order to complete the proper routine in abscesses of appendical origin, a rectal examination was then made, and the rare condition of a projecting abscess into the lumen of the rectum anteriorly was recognized. The anus was stretched to allow of ready access to the swelling for its proper incision, and also to permit afterward the ready escape of fluids from the rectum. By a double-bladed rectal speculum the abscess was exposed and an incision with a long, straight knife made into its cavity through the rectal wall, some three inches from the anus and on its right anterior aspect. Nearly eight ounces of pus and gas escaped through the opening. Into it was passed a rubber drainage-tube which emerged from the anus. Irrigation with boiled water was made with moderate pressure only. None of the fluids passed into the cavity of the abscess, however, escaped from the abdominal wound, which had been uncovered to test this point. In other words, this rectal collection was probably a separate abscess, though all had the common origin in the appendix lesion. The rectum about the tube, as it passed into the abscess, was packed with iodoform gauze, and a large antiseptic dressing applied over the anus. Creolin gauze was here used, as bichloride applications so often irritate about the anus and scrotum.

The little patient has made an uninterrupted progress toward recovery The rectal abscess has been washed out daily with a weak peroxide of hydrogen solution, and his bowels were kept constipated for several days by the use of morphine in small doses.

The final remark may be made that it is not always necessary to open the rectal abscess. In a few instances where the complication has been reported the usual opening in the iliac fossa for the tumor there felt has sufficed to empty also the rectal collection. On the other hand, the opening in the rectum has alone been resorted to by Dr. Lange. Had my patient's condition warranted the prolongation of surgical interference, I should have tried, by a perineal incision, to separate the rectum from the bladder and establish the required drainage exterior to the bowel, and thus avoid the rectal opening. Theoretically, we had better avoid opening into an abscess from the rectum, but time must show whether the clinical disadvantages of so doing are as great as supposed. In this case it was of no detriment.

Foot-warmers.—Boxes filled with sodium acetate are used in the French railway carriages as heat producers. They are filled with the salt in a solid state, which is liquefied by putting the boxes in hot water, and during the five or six hours that it takes to solidify give out heat steadily.

THE CAUSTIC TREATMENT OF CANCER.[1]

By DANIEL LEWIS, M.D.,

SURGEON TO THE NEW YORK SKIN AND CANCER HOSPITAL.

It is possible that pathological research may yet result in the discovery of an internal remedy for cancer, but an existing malignant tumor can never be entirely removed from living tissue without some active intervention by the physician or surgeon. We lay down the axiom, then, that cancer must not only be destroyed before a cure can be effected, but also in some way removed from the body to insure continued immunity from the disease.

Removal may be accomplished by operation or by escharotics. Up to the present time the tendency of the profession has been toward the surgical operation, to the exclusion of all other remedies which we have been pleased to denominate "quack remedies."

The truth of the matter is, that the surgeon who condemns the caustic treatment *in toto* is just as irrational in his judgment as the cancer quack who declares that all cancer can be cured without the knife, and by a painless process. Both parties are in error, and it is my purpose briefly to indicate the cases which are suitable for caustic treatment, and to describe the means employed. This paper is based upon three hundred cases occurring in my service in the New York Skin and Cancer Hospital and in private practice.

In this report no record is made of the treatment by mild cauterization, which I have heretofore condemned in a paper read before the New York Dermatological Society, and given what appeared to me a justification of the position. Among those which may be termed mild caustics are nitrate of silver, carbolic acid, pyrogallic acid, resorcin, and that South American extract of something which is called alveloz. None of the remedies of this class are true escharotics, but rather irritants. All fall far short of the one great requirement of a proper escharotic for cancer, viz., an agent which will produce rapid as well as complete destruction of the diseased tissue. All are liable to stimulate absorbents and so promote dissemination of the disease, and the only safe employment of them consists in discarding them altogether.

For the purpose of this discussion the following division of cancer may be adopted: 1. Cancer of the breast (including carcinoma and sarcoma); tumors of the axillary and cervical glands; cancer of the vulva, of the testis, of the penis, and of the rectum. 2. Cancer of the cervical portion of the uterus, of the tongue, and of the tonsil. 3. Cutaneous cancer, including cancer of the lip and of the external ear.

All malignant diseases not included under these three heads are outside the province of this paper, as no advocate of treatment by caustics, however ardent his preferences, has ever attempted to employ such means in the treatment of disease of internal organs, of bone, of the thyroid gland, or even of the larynx or vagina, without regretting it afterward.

Before considering these classes in detail, it may be stated that no method of treatment should be employed which aims at anything short of complete destruction and removal of diseased tissue. The only possible exceptions to this rule are occasional instances in which a tongue may be removed to allow of increased facility in feeding, a tumor near the eye where the sight may be preserved, or where a pendulous or ulcerating tumor (as of the breast) may be rendered less painful or offensive for the time being by the removal of a portion of it. Such are palliative measures which may be justifiable, although life is not usually prolonged thereby.

The treatment of cancer of breast by caustics has often been recommended, even by physicians of good repute, while the cancer quack has, almost from time immemorial, secured both fortune and glowing testimonials of merit from this unfortunate class of patients. If the his-

[1] Read before the Medical Society of the County of New York, January 23, 1892.

tory of removal by operation of recurrent disease in my service at the hospital in such cases could be published, with the original testimonials of cure without the knife, it would prove an effective antidote for such insinuating and dangerous pretensions. I hazard the statement that no cancerous tumor of the mammary gland ever existed which was a proper case for the employment of caustic treatment. I do not deny that the tumor can be destroyed and removed by such applications as Marsden's paste, or Bougard's or Michel's paste (I have employed these means successfully), but the process requires several months, is painful in the extreme, crude in its execution, and, worse than all else, tends directly, through the chronic irritation of adjoining tissues, to disseminate the disease to other organs. Of the very small proportion where a cure has finally resulted from these procedures, a much more rapid and satisfactory result would have been secured by a surgical operation. No cancer of the breast should ever be treated without removing every lymphatic gland in the axilla of the side affected, and this cannot be accomplished by a plaster or a caustic of any description.

Mr. Charles Egerton Jennings, of London, in his admirable book on "Cancer and Its Complications," in speaking of cancer of the breast, uses these words: "When caustics are employed to destroy a cancerous growth of any considerable dimensions the results are far inferior to excision or amputation under modern conditions. The bulk of the growth is hardly ever eradicated, and manifest local recurrence occurs ordinarily after the lapse of a few weeks. The caustics are applied and reapplied, and this sad treatment goes on until the patient is relieved by death of a treatment which adds pain to that of the disease, which it ordinarily aggravates."

He makes an exception in favor of caustics in certain very old and debilitated patients, where there is an open ulcer, with the surrounding tissues adherent to the ribs, for the purpose of arresting offensive discharges for a while, and ends by recommending a preparation consisting of

℞. Hydrochlorate of cocaine..... 2 grammes.
Caustic potash..... 6 "
Vaseline..... 8 "

After the skin is well cleansed, small portions of this paste are well rubbed in with a wooden spatula, and in a few minutes considerable tissue can be destroyed. It is not a painful application, and I have removed small growths on various parts of the body quite satisfactorily. The charred portions should be carefully wiped away with absorbent cotton during the application, to prevent destruction of adjoining healthy tissues.

Whatever arguments can be urged against caustics in breast cancer apply with increased force to disease in the axillary glands. The cicatrix resulting from such treatment resembles that of an ordinary burn, and not long since a patient applied to me after a tumor of the axilla had been removed by a celebrated "dealer in knifeless operations," and the contraction had firmly bound the arm to the side. I may add that the disease recurred in the cicatrix.

In the glands of the neck there is the added danger of destroying important organs, for only great familiarity with any caustic can enable us to predict the extent of its action to the requisite degree for the safety of the jugular vein or the facial artery. The instances of this class where caustics have been employed that have come under my notice are sad beyond description, and the only word to add concerning caustics in tumors of the neck is the most sweeping condemnation. The same may be said of tumors of the testis, which are likely to be cancerous and of rapid growth.

A small superficial tumor of the vulva may sometimes be removed by electrolysis or the Paquelin cautery, but my own experience and observation in these cases compel me to state that recurrence is usually rapid and certain, and the only reasonable hope of cure lies in an early and free excision. No time should be lost in the attempt to cure with caustics.

Dr. C. W. Allen recently presented to the New York Dermatological Society a patient with epithelioma of the glans penis where Bougard's paste had been employed successfully, but the corpus spongiosum is so excessively prone to infiltration with cancer that amputation as near the pubis as possible appears the safer procedure. A radical cure of the penis by operation is not unusual, provided treatment is undertaken early in the progress of the disease. The caustic paste may be considered admissible provided the disease is confined to a small portion of the foreskin, if indeed that condition is ever met with in practice.

Of our second class—cancer of the cervical portion of the uterus, of the tongue and the tonsil—it will be noted that they are in a class by themselves, because the plasters, pastes, etc., cannot be used without poisoning the patient, and some form of the actual cautery is the only proper escharotic, should any be deemed advisable.

In regard to the cervix there is so much to be said that the limits of this paper forbid a thorough discussion of the subject. I believe, however, that of the considerable number of cases which I have observed in my own and my colleagues' practice, all are now dead with one exception, and she is not likely to long continue to break this dismal record of mortality. Many have been curetted thoroughly and afterward cauterized, and some arrests of symptoms secured, but all improvement was only temporary. Mr. John Williams gives his cases in admirable detail, and high amputation was no more satisfactory. Extirpation in the cases where the woman survives the shock, is sometimes followed by recurrence in the peri-uterine cellular tissue, so that we are forced to the conclusion that cancer of the uterus is one of the most incurable of all the malignant diseases.

The spongy character of the tongue accounts for the extreme malignancy of disease therein and its consequent incurability. Even the actual cautery is useless, and whether you amputate by Whitehead's or Kocher's method, or any other, a year of immunity is longer than I have ever secured, although Butlin reports six cases out of a total of seventy who remained cured after three years.

It may be said, in brief, concerning epithelioma of the tonsil (primary), that the removal thereof by cautery involves great danger from secondary hemorrhage, while primary hemorrhage is very liable to cause death when removal by operation is attempted, so that the only favorable comment to be made upon these cases is the extreme rarity of the disease, the entire number of recorded cases being less than one hundred.

Concerning the third class, which comprises all cutaneous cancer, epithelioma of the lips and of the external ear, it may be said that they are the most curable of all varieties of cancer, and in this respect stand in sharp contrast with the class just considered. There is no reason why ninety five per cent. should not be absolutely cured, if treated at the earliest period in the course of the disease. There need be no hesitation in giving the patient himself this prognosis, provided always that he will permit very frequent observation and prompt destruction of any epithelial growth.

Cutaneous cancer is usually treated more satisfactorily by escharotics than by any other method, and for various reasons. The patients are usually past middle age, and often far advanced in years, and, as a class, not good subjects for etherization. The antipathy to a surgical operation often leads them to delay treatment until the precancerous stage, as Mr. Jonathan Hutchinson has termed it, has been followed by one of active malignancy. You can always quite readily persuade them to have a plaster applied. The disease can be thoroughly destroyed by the caustic plasters, for they will all act sufficiently upon diseased tissue in so much less time than upon healthy skin that there is almost an excuse for the fallacy that they exercise a positive power of selection. The resulting

cicatrix, when the deep subcutaneous tissues are not involved, is a very smooth, white, and in every way healthy one, far less conspicuous than after operation. The only cases in which an operation should be preferred to a caustic are those involving the mucous surface of the lip, the eyelids, and all others which have involved a large surface, so that dangerous poisoning might result from absorption.

The choice of a proper escharotic is of considerable importance. If the disease be a very small warty growth, the potassa and cocaine paste of Mr. Jennings is a good one. Acetic acid must be at hand to limit its action as soon as desired. Where the disease is that form of epithelioma called rodent ulcer by some, and Jacob's ulcer by other authors, with little or no induration of the borders, a paste composed of lactic acid and silicic acid, in such proportions as to make a thick paste, is effectual in destroying the diseased surface. It has one advantage over others in that it is not poisonous, and can be spread over a large surface. It is less active than the others, and requires frequent repetition. I now very seldom employ it. The actual cautery is too painful, and patients are much frightened by the very appearance of the doctor armed with a red-hot instrument.

In 1874, in a paper before this Society, I described the method, then new, of applying an arsenical paste as recommended by Dr. Alexander Marsden, Surgeon-in-Chief of the London Cancer Hospital, and gave histories of 12 cases successfully treated by it. Since that time I have employed the same paste in over 100 cases. It is satisfactory in the main, and has become a well-recognized remedy throughout this country. In some cases the reaction is very great and the pain very severe, although less pain is experienced if cocaine is mixed with it. It is composed of arsenious paste, two parts; mucilage of acacia, one part; mix into a paste too thick to run. It is then applied to only one square inch of the ulcer, covered with cotton to absorb any superfluous paste, and left on until swelling occurs around it, with heat and redness, when it is removed and a line of demarcation usually surrounds the surface cauterized. From one to three days are required to produce the desired effect. Warm poultices are then applied until the slough separates (usually about a week), when, if the disease is all removed, the healing process proceeds as in an ordinary granulating sore. The same process is to be repeated until the disease is all removed. Marsden insists that no cancer of more than four inches in extent should be thus treated, and only one square inch at a time, and the case very carefully watched. The surgeons of the London Hospital inform me that even Marsden himself seldom employs the paste. They have substituted an application called Bougard's paste, after the Belgian surgeon who first published the formula in his work on caustics. This author brought it forward as a cure for mammary cancer, but as such, in my judgment, it is open to the same objection as all other caustics; but in cutaneous and lip cases, in fact all surface epitheliomata, where any escharotic is admissible, this is by all odds the best we have at present. It is less painful than Marsden's, forms a more dry and friable slough, can be safely applied to a larger surface, and can always be prepared and ready for instant use, for in a covered jar it will keep for many months. With both pastes the surface must be denuded, if necessary, by caustic potash to render the action prompt and effective in the shortest possible time. Bougard's formula is as follows:

Wheat flour	60 grammes
Starch	60 "
Arsenic	1 "
Cinnabar	5 "
Sal ammonia	5 "
Corrosive sublimate	0.50 centigramme.
Solution of chloride of zinc at 52	245 grammes.

The first six substances are separately ground and reduced to fine powder. They are then mixed in a mortar of glass or china, and the solution of chloride of zinc is slowly poured in while the contents are kept rapidly moved with the pestle so that no lumps shall be formed. A thick layer of this is spread on cotton and left in position twenty-four hours, and then managed in every way as Marsden's paste. Few cases require a second application. The ulcer may be dressed with balsam of Peru ointment of varying strengths, according to the stimulation required, and all exuberant granulations are to be kept in check by the usual methods. An excellent dressing, instead of the Peruvian balsam, is a five or ten per cent. aristol ointment, with vaseline as a base. However, this after-treatment is not of vital importance except in one respect, viz., healing under a scab in cancer cases can never be trusted.

249 Madison Avenue.

GOUTY EYELIDS. A CASE OF RHEUMATIC IRITIS AND A CASE OF RHEUMATIC KERATO-IRITIS.

By JOHN E. WEEKS, M.D.,

NEW YORK.

In addition to the tophi, met with in the lids of old gouty subjects, which appear as subcutaneous, pale, nodular masses, usually remaining in the tissue without producing any irritation, but sometimes producing suppuration in the surrounding tissue, we have a peculiar form of lid affection which in certain cases is one of the first pronounced signs of the gouty diathesis. This consists of a marked swelling or puffiness of the lids and conjunctiva with more or less chemosia, accompanied by a muco-watery discharge, quite annoying to the patient, and of greatest severity whenever there is an exacerbation of gout. The following is an illustrative case:

Mrs. C——, aged thirty-eight. Came on account of a marked swelling of the lids and conjunctiva, and profuse lachrymation. There was a family history of gout. The lady herself had suffered from gout in the ankle and toe-joints, and in other parts of the body for some years. The eyelids are more swollen in the morning than in the afternoon. The swelling is greatest and most troublesome during an exacerbation of the gout. The family physician reports excess of uric acid in the urine, no sugar, no albumen. The condition of the eyes when seen was as follows: Lower lids very œdematous, pale, translucent; the upper lids partake of the same condition to a less degree. Conjunctiva swollen and pale; the ocular as well as the palpebral conjunctiva being affected, there was some chemosis present. There was quite a profuse watery discharge, some photophobia, and considerable discomfort. Alkaline waters and colchicum were ordered and rapid improvement followed their use.

I have seen the patient at intervals and learn that her lids give her trouble whenever she has an acute attack of gout.

In connection with this peculiar swelling of the lids we not infrequently see a roughening, a mild form of eczema of the integument of the lids, accompanying gout.

A gentleman, a sufferer from gout, who has been under my observation for some years has this form of lid affection. The urine shows excess of uric acid and water; no albumin, no sugar. The condition of the lids grows worse or improves, according as the manifestations of gout in other parts of the body are pronounced or imperceptible. The condition of the lids is a true indication of his general condition so far as the gout is concerned. An ointment of the yellow oxide of mercury applied to the lids controls the eczema, but constitutional treatment directed to the gouty diathesis is required to cause a subsidence in the œdematous swelling.

Rheumatism, acute or subacute, as a cause of iritis is probably not the most common; however, it stands in a causative relation in a large number of cases, and presents a large range in form and in severity. The serous, spongy, and plastic varieties, the "quiet" or painless

iritis of J. Hutchinson, and the acute or intensely painful forms are met with.

The two following cases are illustrative of the "quiet" and of the acute forms of plastic, rheumatic iritis.

CASE I.—Jennie J——, aged twenty-two, came to the New York Eye and Ear Infirmary, Dr. Derby's service, December 23, 1890, with iritis of the left eye. The patient has been "troubled with rheumatism since childhood." She has had two severe attacks of inflammatory rheumatism within the last eighteen months. There was no history of syphilis. At present the patient appears to be well-nourished and the general health is good. The patient first noticed "a little redness of the left eye" and some dimness of vision during the last week of August, 1890. She has never had any pain of any consequence in the eye, or in the left side of the head. The surgeons at two dispensaries have been consulted who have prescribed mercury, potassium, and atropine. According to the patient's statement the vision has grown gradually worse.

Present condition: Slight pericorneal injection in the left eye, almost complete posterior synechiæ. A thin membrane fills the pupillary space, preventing any but the faintest reflex from the interior on ophthalmoscopic examination. Globe slightly harder than normal. After atropine had been instilled the vision = $\frac{5}{200}$, not improved with glasses. There was no pain in or about the eye. Treatment, salicylate of soda, gr. xij., every three hours, atropine one per cent. instilled into the eye four times daily. Hot applications.

December 29th.—Pericorneal injection less in amount. Some of the filiform iritic adhesions broken. Pupil irregularly dilated; tension normal; vision = $\frac{5}{10}$.

January 18th.—Eye white; quite a number of firm adhesions between iris and lens; capsule remain; tension normal; vision = $\frac{5}{10}$.

CASE II.—Gerhardt S——, aged thirty-eight, married; policeman on night duty; has had a number of attacks of inflammatory rheumatism. The patient is a large, powerful man. There is no history of syphilis.

On August 24, 1888, Mr. S—— was compelled to take to his bed on account of a severe attack of inflammatory rheumatism. He was seen by his family physician and put on anti-rheumatic treatment, the salicylates being given in small doses. Pain in and above the right eye was noticed on September 1st. On the advice of his family physician an oculist was consulted who prescribed atropine and the iodide of potash. The patient suffered a great deal from pain, particularly at night. I saw him on September 7th. He was then in bed, and could move only with great difficulty on account of the extreme sensitiveness of the swollen joints. The knee, ankle, and right shoulder joints being the ones most involved. The temperature was 103° F. The condition of the right eye was as follows: Intense pericorneal injection. Pupil small. Many posterior synechiæ. Thin layer of exudation in pupillary area.

Cornea the seat of six or eight punctate opacities, some of which were in the parenchyma, three or four were near the surface causing loss of the corneal epithelium at these points; they were not pustular. Great photophobia; tension plus; vision greatly reduced.

Diagnosis.—Rheumatic kerato-iritis.

Treatment.—A one per cent. solution of atropine was instilled every two hours. Room darkened. The salicylate of soda, gr. x., was given every two hours. A saturated solution of the iodide of potash, gtts. xii., three times a day after meals. Five leeches were applied to the temple at night and the after-bleeding was encouraged by making warm applications. The pain in the head was so severe that morphine powders (gr. $\frac{1}{8}$) were left. Of these he took three during the night.

There was some improvement in the appearance of the eye after twenty-four hours. The pain after this rapidly subsided. A solution of the bichloride of mercury, 1 to 8,000, was employed to instill into the eye three times daily. Five days later the patient was able to sit up. The fever had abated, the pericorneal injection had markedly decreased and the corneal epithelium had become replaced, the deep-seated corneal opacities were still visible. The case progressed slowly toward recovery. October 20th, the patient returned to his post; at this time the cornea was clear. A number of posterior synechiæ remained, and there were some remnants of membrane in the pupil; vision = $\frac{20}{100}$. The salicylate of soda was continued for a week or ten days, when all pains of a rheumatic nature had disappeared.

February 6, 1889.—I was again called to see the patient. After a severe exposure to inclement weather he had experienced some joint pains, and two days before calling me the left eye had become red. When seen by me there was some pericorneal injection and a mild form of plastic iritis. As there was considerable pain in the temple, five leeches were applied. Atropine was instilled into the eye, and the salicylate of soda in frequently repeated doses was given internally. The pupil dilated irregularly on account of some filiform posterior adhesions. These were broken up and the patient recovered so that he resumed work in twelve days' time. Cornea clear.

On May 26, 1890, this patient suffered from a recurrence of plastic iritis in the right eye, with some punctate opacities in the cornea. Leeches, atropine, and the salicylate of soda were employed. This attack came on after exposure and was accompanied with rheumatic pains in the joints of the lower extremities, some swelling and some fever. In two and one-half weeks the patient was again ready to report for duty. A few filiform adhesions still remained in the right eye. Vision = $\frac{20}{30}$ in the right, and $\frac{20}{20}$ in the left eye.

Since May of 1890 there has been no relapse. The above appears to be a case of kerato-iritis of purely rheumatic origin. Syphilis and gonorrhœa were excluded.

154 MADISON AVENUE.

PYORRHŒA ALVEOLARIS, OFTEN DIAGNOSED AS FACIAL NEURALGIA.

BY CHARLES G. PEASE, M.D., D.D.S.,

NEW YORK.

I HAVE been induced to write this article for the benefit of my brother general practitioners, owing to the number of cases of pyorrhœa alveolaris accidentally and otherwise falling into my hands, which have been previously diagnosed as facial neuralgia and treated for such, of course, without success. It might be well here to consider the pathology and etiology of this disease of the oral cavity. It has been maintained by some that it was of local origin, while others have ascribed it to constitutional causes. Although it is a disease depending almost wholly upon local causes, such as the irritation produced by a salivary and sanguinary calculus—the latter always a resultant of degenerative conditions of mucous crypts surrounding the necks of teeth, insoluble dentifrices, denture clasps, caustic agents, etc.—yet its peculiar manifestations no doubt often depend upon some unfavorable diathesis which enables the local causes to produce more serious effects than might be possible in better systemic conditions. Mercurial medicines should not be forgotten as a cause. The constant irritation produced by salivary calculus, or by other irritants at the necks of teeth, produces an inflammation of the gingivæ, causing them to weep a serous fluid, from which we get the serumal deposit upon the tooth under the free margin of the gum, this acting as an additional irritant. Simple gingivitis will in this way contribute to the development of the disease. When a slight deposit has taken place it becomes an irritant which will in itself perpetuate the disease. The gum and lower border of the peridental membrane is kept in a state of chronic inflammation, resulting in the continued though very slow increase of the deposit. It may be years before it will be productive of

serious conditions. Finally, ulceration of the peridental membrane occurs and is gradually destroyed. The alveolar wall is absorbed, and a pocket is formed between the root of the tooth and the gum. The serumal calculus is deposited as the root is denuded of the peridental membrane, and so continues in the work of destruction to the very apex of the root, the tooth becomes loose, pus exudes about the neck of the tooth, and the dental organ is finally lost.

During the progress of the disease there are frequently periods of considerable pain, often lasting for weeks or months, simulating facial neuralgia, frequently augmented by food in the pockets undergoing fermentation about the necks of the teeth, making them acutely sensitive. These conditions are too frequently overlooked by the dental surgeon, a large number of cases giving no visual evidence to the unpractised eye of the progressive disease which will finally prove so disastrous, if not properly treated. I will cite several cases.

Miss B——, aged twenty-four, came to my office to consult me upon the subject of her sufferings. She had been treated for neuralgia of the face; her own dentist, whom she had consulted for caries of the teeth as a possible cause of the trouble, could not find anything in the condition of her mouth indicating a cause, but gave her the comforting assurance that the neuralgia would soon pass away and that he could do nothing for her. She bore the pain for months, it was constantly increasing, and she was not able to rest at night.

On examination I found the condition of which I am superficially treating in this article, over two of her teeth, left superior six and twelve year molars. By the means of appropriate instruments I removed the accumulation of serumal calculus (hidden from view) to the full extent of the pockets, together with the fermenting food, etc., as well as I could at one sitting. I then applied indicated remedies and made an appointment for another sitting, telling her that I had no doubt of her being able to sleep that night, which prediction she realized with so much pleasure that she could not wait until the next appointment but wrote me the following morning telling of the complete success of the operation.

Mrs. W——, aged forty-four, brought to me by her physician, had been treated unsuccessfully for facial neuralgia. Her own dentist could not find anything about her mouth as a cause. On examination the same conditions presented about six of her teeth, the gums being badly congested, to all of which I called the attention of her physician. She was placed under my care for the local trouble. The pain diminished markedly under treatment, and entirely disappeared in several days, the tissues returned to their normal condition, and in three weeks the pockets were completely closed.

Mr. S——, aged forty-two, was suffering from one of his frequent attacks of so-called facial neuralgia. I found the majority of the teeth involved, at some points the disease had progressed to a serious degree. He was much surprised when I told him the cause of his trouble, demonstrating it by affording relief. He made the statement that his sister had suffered with the same character of pain, and that, after being treated for facial neuralgia without relief, she had had a number of sound teeth extracted, not knowing what else to do. It will be borne in mind that the tooth itself may be perfectly sound. These cases are but a type of many. If the diagnostician will think to look for this disease as a possible cause in symptoms of facial neuralgia, it may clear up a large number of cases.

101 West Seventy-Second Street.

Enemies of Tobacco Smoking.—The ladies of St. Petersburg have organized associations of men and women with this title, the members of which have pledged themselves not to smoke, and to give the money thus saved to the famine sufferers.

Progress of Medical Science.

Duodenal Indigestion.—Dr. Allchin says in his Bradshaw Lecture (*Lancet*, December 5–12, 1891): Owing to the different nature of the alimentary principles and the corresponding different nature of the means for digesting them, they are not all reduced to a fluid and absorptive state at once, but at successive parts of the canal. Thus we have buccal, gastric, and intestinal indigestion. Of the three groups of alimentary principles — proteids, carbo-hydrates, and fats—the first require the greatest amount of digestion, and in the stomach are mostly converted into diffusible peptones. Up to the passage of the chyme into the duodenum, the fats have been untouched. The chyme appears as a gray grumous fluid of strongly alkaline reaction, and consists of such proteids and carbo-hydrates as may have escaped any action by the gastric juice and saliva, unabsorbed salts and water, indigestible substances, remnants of saliva, and a variable quantity of gastric juice. What is termed duodenal digestion is the action upon the chyme of the bile and pancreatic juice. It takes place throughout an unknown length of the duodenum, and consists in a special preparation of the fats for absorption, and a supplementary treatment of the carbo-hydrates and proteids. The pancreatic digestion of proteids is, however, carried further in the disintegration of the molecules than the gastric digestion is, since the hemi-peptones of tryptic fermentation may be converted into leucin and tyrosin, preliminary stages to the excretion of the nitrogenous excess as urea. The conversion of undigested starches of the chyme of the amylotic ferment of the pancreatic juice is exactly comparable to the action of the ptyalin of the saliva. In the alkaline contents of the intestine various micro-organisms find a suitable field for activity, but so far as is at present known, the entire process of digestion would be equally well carried on in the complete absence of these organisms. The following is quoted from Halliburton: "A useful function fulfilled by the organisms appears to be the destruction of poisonous substances, such as cholin, the alkaloid derived from lecithin. It is possible that, if other alkaloids (leucomaines) are formed by the processes occurring in the intestines, these also are destroyed, for they are absent in the normal excretions." The author insists on the all-importance of salivary and peptic digestion of food, before the bile and pancreatic juices are called upon to exercise their activity.

The conditions leading to intestinal indigestion are thus summarized: 1. Some impropriety in quantity or composition of the chyme, including initial errors in diet. 2. Some perversion in the quantity or quality of the bile and pancreatic juice, more particularly the latter. 3. Some accessory fermentation process or processes of an abnormal character. 4. Exaggerated or deficient peristalsis. 5. Defective absorption of the digesta. Any form of duodenal dyspepsia must be directly referable to one or other of these causes. Excess in the quantity of one or more of the required alimentary principles in the great majority of cases directly brings about a dyspepsia. Again, the author finds that chyme containing a large excess of proteid matter gives the opportunity for increased activity and development of the intestinal micro-organisms which are ever ready to assert their power, and the decomposition effected by the living germs becomes more and more putrefactive and leads to the production of many toxic substances, leucomaines, etc. These becoming absorbed, are largely responsible for remote symptoms of dyspepsia. The author believes that putrefactive changes are mainly effected low down in the canal, are not much influenced by the bile, and he is unaware of any control being exercised by this fluid over those toxic substances which may be formed from the decomposition of the proteids.

In regard to symptoms by which we can discriminate

mal-digestion in the intestine from that in the stomach, we have local manifestations and those which are remote from the digestive organs. Among the local symptoms of indigestion are included: 1. Pain and all other sensory perversions, varying from a mere sense of weight at the epigastrium to acute, griping colic, or sensations of a peculiar character, such as heartburn. 2. Evidences of perverted peristalsis, such as diarrhœa, constipation, vomiting, with all varieties of ejecta from unaltered food to blood, bile, clear acid fluid, or yeasty fermenting material. 3. Signs of undue distention of parts of the canal, flatulence, and meteorism, causing general abdominal fulness. 4. State of the tongue and mouth; salivation. 5. Character of the evacuations. Among the remote symptoms are pain, headache, various neuralgias, lassitude, cramps, especially in the calf, flushings, cold extremities, palpitation, cardiac irregularities, fainting, angina, skin eruptions, abnormal urine, etc. The time of the appearance of local symptoms after taking food does not warrant us in attributing them to either the stomach or intestines, nor are there among the local symptoms any which might be termed diagnostic of the situation, nor can such irregularities as constipation or diarrhœa determine the existence of a gastric rather than a duodenal indigestion. Acidity, heartburn, and pyrosis, while undoubtedly pointing to stomach indigestion, do not of necessity exclude a coexistent duodenal failure. Nausea and vomiting may be due to causes quite remote from the digestive organs, still both may result from absorption of toxic intestinal digesta. Probably most gas of an ill-smelling character which is eructated originally comes from the intestine. Flatus is accounted as evidence of mal-digestion in the intestine, where sulphuretted hydrogen and marsh-gas may be looked upon as exclusively developed, and intestinal flatulence is probably the most reliable local sign of duodenal dyspepsia, owing its origin to excessive ferment action of micro-organisms. Symptoms ordinarily described as "dyspeptic" are noticeably absent where normal duodenal digestion is rendered impossible through an absence of bile and pancreatic secretions in certain cases, and this is regarded as a clinical fact of great significance. In conclusion, the author thinks the most important factor of duodenal dyspepsia is its dependence on abnormal fermentation, caused by micro-organisms introduced *ab extra*.

Salicylate of Soda in Pleuritic Exudation.—Dr. Oerl has, during the past five years, treated nine similar cases of pleuritic effusion with salicylate of soda, after other remedies, such as phenacetin, pilocarpine, etc., had failed, and with the exception of two instances the results were favorable. In these two the resorption was only partial. The author concludes: 1. Serous pleuritic exudations of long standing may be removed by the administration of the salicylate of soda. 2. The salicylate has in exudative pleuritis, just as in polyarthritis, an apparently specific effect. 3. The fact that, so far as experience with this remedy has gone, no new collection of fluid is observed, makes surgical interference in serous pleuritic exudation not only not imperative, but, indeed, puts operative procedures in the background.—*Medizinal Zeitung*, No. 98, 1891.

Exalgine.—From a study of the analgesic properties of exalgine made by Dr. Désiré, at the Hôpital Lariboisière, the conclusion was drawn that, aside from any antithermic action, the product is an admirable specific against pain. It was employed in a great variety of apyretical affections with uniform success. The dose of twenty-five centigrammes, or about four grains, was found sufficient for most cases, but it can be pushed to double or treble this quantity, though as much as a grain is scarcely ever necessary. If medicine rarely cures, it should at least always console, and sometimes relieve, and with exalgine the author thinks great relief can often be given.

Clinical Department.

TWO CASES OF PURULENT RHINAL DISCHARGE.

By FRANK L. STILLMAN, M.D.,

COLUMBUS, O.

The two following cases are reported together—first, to contrast the diagnostic points of the two diseases; second, because of a slight originality in the treatment of the first, and to illustrate the ready improvement in an uncomplicated case of this kind when treated antiseptically; third, to illustrate the difficulty of bringing about a cure in the second case, owing to the chronicity and inaccessibility of the inflammation.

Case I.—Mrs. X——, aged forty; occupation, housewife; temperament, nervo-lymphatic; hair, golden-brown; eyes, blue. Has had no children, general health has been fairly good until two years ago, when she had necrosis of one of the upper dorsal vertebræ, which was cured by the plaster-of-Paris jacket, under the care of Dr. J. F. Baldwin.

Shortly before her first visit she placed herself in the hands of Dr. Otto Arnold, a dental surgeon, in order to have the second molar tooth on the upper jaw, right side, "capped." The tooth was found to be sensitive, and she complained of pain in the right cheek, and an offensive, purulent discharge from the nose and into the nasopharynx. She was referred to me for treatment. I advised extraction of the tooth, which was done.

June 16, 1891.—From the nose she has a fœtid discharge, which is seen issuing from under the right middle turbinate, and pus can also be sucked into the mouth through the tooth-socket. In other respects the upper respiratory tract is healthy. As the patient is refined and sensitive, the bad odor and excessive amount of the discharge caused her much distress. The flow is increased by the recumbent posture and by inclination of the head forward or to the left.

Diagnosis.—Empyema of the right antrum of Highmore.

Treatment was begun at once, and consisted in "flushing out" the diseased antrum through the tooth-socket with a warm solution of hydrarg. bichlor., 1 to 5,000. This was done daily. The irrigation was accomplished by means of a reservoir or fountain syringe, which insures much more perfect cleansing than can be done with the piston syringe. The amount of fluid used each time was from a pint to a quart. The artificial opening into the antrum was kept pervious by a drainage-tube, made from a close spiral of silver wire, which was replaced by a new one daily. Cleansing and soothing sprays were also directed to the nasal mucous membrane in order to prevent obstructive swelling around the hiatus under the middle turbinate.

July 8th.—Discharge is diminishing and has nearly lost its offensive odor. Discontinued douche and commenced semi weekly insufflations of boracic acid into the antrum, the powder being blown in from the tooth-socket.

August 1st.—Seems entirely well.

August 8th.—Discontinued treatment and left in a drainage-tube only half an inch long. This was removed in about a week, and the patient has had no return of the discharge.

Case II.—Mrs. Y——, aged sixty; occupation, housewife; temperament, motive; hair, gray; eyes, brown. Mother died of fatty degeneration of the heart at the age of sixty-eight, and father of paralysis at fifty two. She has two brothers and three sisters living—all well. One brother died of phthisis, has two living children. One daughter died at age of eighteen from phthisis, lost three children prematurely. She was taken sick ten years ago with psoas abscess and "change of life;" was confined to bed for many months, but finally had a complete recovery. She dates the present trouble back about a dozen years.

It began gradually as a rhinitis; she now has a flow of purulent matter from the nose and into the pharynx. The discharge has an offensive odor, and is increased in amount by inclining the head forward. The patient says she soils a dozen handkerchiefs daily, and is compelled to clear the passages very frequently. Has a dull, aching sensation between the eyes, and also at the back of the neck and top of the head behind. Besides this she is subject to weekly attacks of typical migraine, with the "fortification outline" of scintillating light, and slight aphasia. With reflected light the mucous membrane has a grayish, sodden appearance. The middle turbinates are somewhat hypertrophied, while there is atrophy of the inferior turbinates and in the pharynx. Upon close inspection the discharge is seen to issue from under the superior and middle turbinated processes on both sides of the nose. The flow takes place when the head is inclined forward, and is not increased by lateral inclination of the head. This last symptom, together with the absence of swelling or pain in the cheek, the bilateral nature of the discharge, and the negative results of electric transillumination exclude empyema of the antrum; and the absence of frontal pain or tenderness indicates the probable absence of inflammation of the frontal sinuses. There is no indication of suppurating pouches. The trouble, then, is probably chronic purulent inflammation of the anterior and posterior ethmoid cells, and possibly also the sphenoid cells.

Treatment was begun August 12, 1891. It consisted in the use of a cleansing and disinfecting spray of potass. permang., gr. j. to ℥ j., followed by a spray of menthol and eucalyptol in albolene. To give as free exit to the discharges as possible trichloracetic acid, and at a later period galvano-cautery punctures of the middle turbinates, were employed. Internally she has been taking elix. iodo. brom. calcium. This treatment was kept up steadily until September 23d with no appreciable diminution of the discharge. Since the treatment began she has been entirely free from one of her bad symptoms, viz., the migraine. This has probably been due to the fact that the nasal passages have been kept measurably clear from the decomposing discharge by the sprays employed. On September 23d, the insufflation of boracic acid was substituted for the menthol and eucalyptol sprays, but in about a week this was replaced by a spray containing aristol. The patient is still under treatment, but any further amelioratiom of her condition does not appear probable.

SALICYLIC INTOXICATION.

By FREDERICK W. MANN, M.D.,

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RESIDENT PHYSICIAN DETROIT SANITARIUM; SECRETARY SURGICAL SECTION AMERICAN MEDICAL ASSOCIATION, ETC.

The physiological actions of salicylic acid have been so thoroughly worked out in the laboratory, and these have been so generally confirmed by clinical experience, that any extreme deviation from the recognized order of phenomena accompanying the administration of this drug is rare and unusual. The toxic dangers of salicylic acid are usually esteemed to be those due to its action as a cardiac or respiratory depressant, and these are always in the mind of the watchful physician. The toxic effect of the drug on the central nervous system is also a matter of common experience, and numerous observers have reported subacute delirium as a symptom occurring coincidently with its administration. Sometimes well-marked delusions have been noted, and refusal to take food for some cause or other has been a frequent incident of the delirium so produced. It is seldom, however, that anything like acute mania has been known to proceed from the use of this drug, and the case below recorded may, therefore, possess passing interest.

J. K——, a German laboring man, consulted me for an attack of subacute rheumatism. I prescribed a mixture containing two drachms of salicylate of soda in four ounces of peppermint water. Of this mixture the patient was instructed to take a teaspoonful every two hours. In accordance, however, with a belief somewhat prevalent among the Germans, that the more rapidly the remedy is taken the more speedily is the cure effected, the patient proceeded in the course of four hours to empty the entire contents of the vial. As a result of this excessive dose the patient became rapidly hallucinated, manifesting delusions of persecution. A band of Odd Fellows had conspired to kill him. To avoid their persecutions he attempted to escape by the window, and was only restrained by force from committing various acts of violence. During the evening of this day he became so unmanageable that his friends, unable longer to control him, sought aid from the police, the outcome of this being that the patient was incarcerated in a cell for the night. The next morning the patient again came under my observation, and the relatives and police, believing the man insane, questioned the wisdom of confiding him to a physician, and suggested the asylum. In obtaining the history, the ingestion of the excessive dose of the medicine came to notice and the diagnosis of salicylic intoxication was made. The patient was, therefore, allowed to be removed to a hospital. During the next four days the patient manifested all the phenomena of delirium tremens. Visual and auditory hallucinations possessed him. He refused all food, giving as a reason that it would be useless to eat, as he was condemned to be hung. He gazed in a mirror and immediately broke it by striking with his fist the demoniacal image his own reflection suggested. After this he had to be forcibly restrained, and was, therefore, confined to his bed. His attention was incessantly concentrated upon freeing himself from the restraints which had been imposed upon him. When spoken to he responded pleasantly. He was neither coarse in speech nor action; his violence arose solely from the desire to elude his persecutors. His pulse was 130; his respiration was not visibly depressed. At the end of the fifth day the hallucinations gradually waned and disappeared, and the patient rapidly recovered his normal state of health. All trace of rheumatism had disappeared.

Salicylic-acid poisoning is said to be most effectively treated by diuretics. The excretion by the kidney of salicylic acid in the form of salicyluric acid and salicin is the natural safeguard in excessive administration. The occasional occurrence of such cases as the one now recorded lends emphasis to Germain Sée's injunction that salicylic acid should never be administered without a diuretic as an adjuvant.

PHYSOSTIGMA IN HICCOUGH.

Dr. H. M. Shallenberger, of Rochester, Pa., writes: "In a recent issue of the *Edinburgh Medical Journal* Mr. Smart calls attention to a case of obstinate hiccough from chronic alcoholism, so persistent as to prevent sleep and the ingestion of food. No relief followed the use of any drugs, except after the administration of dangerously large doses of morphia persisted in for six days. My object in this note is to assure the profession of the value of physostigma in these cases of obstinate hiccough, from whatever cause. The cases that I have seen have yielded to its influence within two or three days. The last case was precisely like the one reported by Mr. Smart, and forty-eight hours' use of this drug settled the hiccough. Another case of hysterical hiccough, of three months' duration, that had resisted all other agents, was speedily controlled in the same way. A good fluid extract was the form given. The dose is four to eight drops every two or three hours, pushed to the point of causing toxic symptoms."

The Small-bore Rifle will have a tendency, according to Billroth, to shorten war, since a bullet from it will go through several men at a time.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PAN-AMERICAN MEDICAL CONGRESS AND THE ROME MEETING.

THE fact that the Pan-American and the International Congresses are to meet in the same year, and both of them in the autumn, has given rise to the impression among some that the former was conceived in opposition to the latter. Nothing, we are persuaded, can be more erroneous than this idea, and we believe that, so far from interfering, the Pan-American will actually help to increase the attendance at the Rome meeting. Many physicians from the Southern Republics, having already taken the long journey necessary to bring them to the Washington meeting and the World's Fair, will be prepared to extend their vacation and go to Rome, when, without this extra incentive, they might not have been persuaded to go to the International Congress.

The promoters of the Pan-American Congress were at pains to ascertain the date of the Rome meeting, so that there might be no interference, and with this object wrote to Dr. Baccelli several months ago. The latter replied that the Rome meeting would probably be held during the last week of September or the first week of October, although the exact time had not been definitely settled upon. This reply was not received until after the meeting of the Committee in St. Louis, when the date of the Pan-American had been already fixed for the first week in October; but when it was learned that this would interfere with the International, the time was changed to the first week in September. This will make it easy for those who desire to attend both meetings to do so, and is evidence that the Committee of the Pan-American Congress desire to promote rather than to antagonize the International. The Washington meeting must, of course, be held in 1893, in order to afford the opportunity to the Latin-American members of visiting the World's Fair, and the fact that that is also the year for the assembling of the International Congress is but a coincidence, which will, however, be of distinct advantage to both bodies.

The organization of the Pan-American Congress is in the hands of good men, the National Committee is a thoroughly representative one, and the delegates thus far selected from the other countries of the Continent are men of eminence at home, and many of them of an international reputation as well. The idea of an American Congress has been well received in our sister Republics, and, now that the danger of a hostile meeting with one of them has been happily averted, there is every reason to anticipate a most successful meeting, and one that will be productive of mutual advantage and pleasure to all who take part in it. And we are confident that the entire profession in this country will labor as a unit to aid the Committee in their good and patriotic efforts, and to further in every possible way the success of the first Pan-American Medical Congress.

YELLOW FEVER AT SANTOS.

EVERY vessel arriving at this port from Santos brings tidings of the continuance of the yellow-fever pest in that unfortunate city. The disease has prevailed there with unusual severity for about two years, but since the beginning of the hot season last fall, it has raged with unparalleled malignancy. The city is the shipping port for a large section of Brazil, ranking next to Rio de Janeiro in the volume of its exports and imports, and it is among the foreign sailors that the epidemic finds the chief material for its victims, although large numbers of natives and acclimated foreigners have also died during the past few months.

The cause of this outbreak of disease is very apparent. For years, ever since the foundation of the city, in fact, up to a comparatively recent time, all the refuse of the city was thrown into the waters of the bay or river on which the town lies, and was there allowed to accumulate. About two years ago the building of stone docks in place of the old wooden wharves was begun, and this brought to the surface the old accumulation of filth. At the same time the yellow fever, which has always had its home in this unhealthful city, suddenly assumed an unwonted virulence. The city authorities have done little or nothing to stay its ravages, and, as fresh material has been continuously supplied in the persons of unacclimated sailors, the epidemic has naturally shown no signs of abatement.

There is a foreign hospital in the city attended by American and European physicians, through whose care many lives have been saved, but they can only help the sick and can do little in the way of prophylaxis beyond cautioning the captains of vessels against giving shore leave to their men. The city authorities of Santos are the ones upon whom rests the responsibility for this frightful loss of life, and in the face of their supineness there seems to be little hope of a subsidence of the epidemic. Perhaps, after the trade of the port has been destroyed, they will wake up to a realization of their criminal stupidity in suffering their city to become a plague spot and a disgrace.

GROWING FEVER.

CERTAIN French writers, notably M. Bouilly, have had much to say in recent years concerning a fever occurring during the period of growth, which they regarded as a morbid entity and dignified by a special name, "la fièvre de croissance." According to the author above mentioned, the disease is characterized by three special symptoms, to wit, fever, epiphyseal pain, and an increased rapidity of growth of the child. In addition to Bouilly, other writers, such as Bouchut, Gombault, Duchamps, and Dally, have lent the weight of their authority to this

view, so that, in France at least, the disease has been granted a definite place in nosology.

M. Barbillion, however, writing in the *Revue des Maladies de l'Enfance* for January, 1892, attacks this theory, and contends that there is no such disease, but that the fever observed is merely symptomatic of some recognized morbid condition. This may be acute rheumatism, mild typhoid fever, malaria, acute indigestion, ephemeral fever, or in some few cases osteomyelitis, or even simple fatigue, which is not infrequently accompanied by a rise of temperature in children. An increased rate of growth, he holds, is a very common accompaniment of pyrexial states in the young, and this in itself would be very apt to give rise to slight pain at the epiphyses of the long bones. Thus the two characteristic symptoms of epiphyseal pain and rapid growth may be the result simply of increased bodily temperature, and this latter can be due to any of the conditions mentioned. The author believes therefore that the so-called fever of growth has no existence as a disease *sui generis*, and that it is entitled to no place in the catalogue of independent morbid states.

ABOLITION OF ELECTRICAL EXECUTION.

EVERY enforcement of execution by electricity emphasizes the objection to the method. The promises made by scientific executioners that murderers shall be despatched speedily, painlessly, and pleasantly have fallen so far short of realization that the expected reactionary protest from the outraged public shows itself in the attempt to repeal the present cruel law.

Thus far every attempt at perfecting the abominable means to the horrifying end has been a failure, and it is high time to call a halt in the revolting experimentation enacted at every execution. All the victims have been killed, it is true; but how? In every case repeated strokes were necessary, with torturing intervals for discussion and disputation among the scientific experts—the grim tussel with death timed by stop-watches while the victim is writhing between scorching electrodes. The details of this dreadful business transcend in cool brutality anything that can be imagined, and yet we are assured that this is the new and approved way of doing the victim to death. How long must these sickening experiments continue before a repeal of the obnoxious law is possible? If we must have capital punishment let it be at least humane in its execution. A strong rope is always sure, is easily worked, and appeals to a higher civilization as well as to the ordinary necessities of the most primitive community.

ADVERTISING FOR DISPENSARY PATIENTS.

WE are pained to notice a disposition on the part of some of our friends connected with public clinics to add another to the already long list of abuses of medical charity by advertising for free patients in the daily papers. It is difficult to see what the end may be if this practice becomes prevalent. We are speaking for the young practitioner when we protest against it. There should be no necessity which makes this method of securing material possible. It is an open bid against the bread and butter of the young man who must depend upon just such patients as the dispensary coaxes to its doors by such advertisements. If the clinics are so eager to go into the highways and byways for clinical material there will soon be no pay-patients among even the middle classes. It is not enough of an excuse for these so-called charities to declare that it is for the good of the sick poor. In reality it is apparent that the purely business element of these dispensaries is the uppermost consideration in the minds of their faculties, and it is no more to be considered from ethical points than is open advertising by the needy individual medical man. There are two sides to this question. The colleges and dispensaries cannot afford to make enemies of the rising generation of practitioners, for the reckoning will not be far distant. We advise these charitable institutions to withdraw their advertisements else they may hear more on this subject.

PROGNOSIS IN MANIA.

The Bulletin of the Belgian Society of Mental Medicine for December, 1891, refers to Willerding's interesting communications upon the subject of prognosis in mania. The author's study of 322 cases admitted to the Hildesheim Asylum, from January, 1878, to August, 1890, includes observations of all kinds of mania. Seventy per cent. of all cases recover within a few months. Early restraint has a most beneficial effect upon the course of the disease. Neuropathic heredity has no unfavorable influence upon prognosis. The outlook is good in mania following slight cranial trauma. The younger the patient, the greater the chance of recovery. In regard to the termination and duration of mania, prognosis is good in so far as it is due to organic, puerperal, or alcoholic cause. Return of menstruation, with coincident slight psychic improvement, is an almost certain sign of ultimate recovery. Among adverse symptoms that necessarily influence prognosis unfavorably are convulsions and paralytic phenomena, the gravity of the case itself, periods of sudden excitement in the course of puerperal mania, or mania following slight cranial traumatism, and abrupt cessation of mania. This sudden termination suggests the strong probability of speedy relapse, or a transition into periodic mania. A notable increase in weight before the mental abnormity has disappeared is an unfavorable sign. Prognosis in periodic mania is always discouraging. Definite and complete recovery is hardly to be expected. After a certain number of attacks of mania, of whatever kind, there is marked weakening of the intellect.

ABNORMITIES IN DEGENERATES.

AMONG epileptics, asymmetries are inherent even in minor details of the organism. Imprints of the ball of the fingers and great toe have been taken by Féré in one hundred and eighty-two cases of epilepsy. These imprints in general confirm Dalton's researches. The tendency to variation in the tactile substance increases from the little finger to the thumb, except in the ring-finger. Energy and rapidity of movements decrease from the thumb to the little finger. Asymmetry of imprint exists in nearly half the cases. This is an interesting fact, for asymmetry elsewhere is recognized as one of the most frequent and important characteristics of degenerates.

The nose, the most thoroughly original and distinctly

individual feature, said by the French to be the only one that cannot be "made" by art, presents in idiots deviation to the left almost amounting to deformity. The deviation exists in more than half the cases under observation. Revillet's records are worthy of note. Of common occurrence among idiots he finds hypertrophy of the mucous membrane of the septum and turbinated bone, an affection the observer considers relatively rare among persons of sound mind. Narrowing and obstruction of one nasal fossa, due to this marked deviation of the septum, are in themselves sufficient pathogenetic cause for this condition. Both nasal fossæ are usually affected with chronic catarrh.

Ocular phenomena in mental disease have received much attention of late. Excavations of the papilla, frequent in the eyes of normal persons, Royet affirms is the rule among the insane with suicidal impulses, and among those hereditarily disposed to insanity. Idiots and imbeciles, from the ocular point of view, may be divided into two classes. The first, the hypermetropics, are generally those whose mental infirmity dates from intrauterine life. The second class, on the contrary, emmetropics and myopics, are victims of dementia beginning in earliest childhood.

THE METHOD OF ZADIG.

Before the North London Medical and Chirurgical Society, Dr. T. Lauder Brunton recently delivered an address in which he advocated the method of Zadig in medicine; Zadig being a personage introduced to the world by Voltaire, and represented as retiring from Babylon on account of general disgust with life and chronic boredom. Upon the banks of the Euphrates, in a lonely place, Zadig studied plants and animals until he saw a thousand differences where others could see only uniformity. Zadig is also that interesting observer who accurately described to the Fakir, in the Syrian Desert, the lost camel which he had never seen, by carefully noting every form of circumstantial evidence in the region through which the animal had passed. This method of tracking, Dr. Brunton advocates in medicine, as a direct help to treatment. Without removing the cause, direct measures may prove fruitless. And he cites, as an illustration of this, the case of a young physician in a clinical service involving heavy work and great worry, whose nervous dyspepsia was promptly relieved by the timely administration of physic to his irritable and crusty superior, the chief of clinic.

The method of Zadig might explain why cases come in a run, bronchitis one day, rheumatism another, and exacerbation of nervous disease on a third. What connection is there between such phenomena and meteorological conditions? Converts to the method of Zadig might each week in one word jot down the kind of cases that appeared in greatest numbers, and individual notes might then be classified by one person in charge of them all, so as to give the general results.

Telegraphic communication of the approach of storms is now almost universal. In the near future, invalids as well as seamen may reasonably hope to prepare for what is coming and ameliorate the inevitable. By carefully watching the papers it will later be possible to avert catastrophe by extra flannel or bromide of potassium. But this day of mitigated evils can only become a substantial fact by elaborate study according to the method of Zadig.

PINEAPPLE JUICE.

Some time ago the late Dr. V. Marcano, of Venezuela, noted that pineapple juice contained a proteid digesting substance. No careful study of this fact was, however, made by him. Recently, Professor R. H. Chittenden, assisted by Messrs. E. P. Joslin and F. S. Meara, have investigated the matter fully, and announce facts which are likely to give to the succulent pineapple a prominent place in dietetics.

Pineapple juice is an acid fluid of specific gravity of 1.043. An ordinary pineapple yields 600 to 800 cubic centimetres of it. The proteid-digesting power is quite remarkable in its intensity. Three ounces of the juice will dissolve ten or fifteen grains of dried albumin in four hours. The action takes place in acid, neutral, or even alkaline media, thus resembling trypsin more than pepsin. It acts best in neutral solutions. The pineapple juice contains also a milk-curdling ferment. Professor Chittenden does not seem to be aware that a well-known meat powder is prepared, or is said to be prepared, with the help of pineapple juice.

News of the Week.

Leprosy is said to be increasing at an alarming rate in Japan, and the native journals are urging the authorities to take measures for its repression.

Prize of the Société Médicale des Hôpitaux.—The Hospitals Medical Society of Paris offers a prize of 1,000 francs ($200) for the best essay upon "Artificial Feeding of Infants." The competitive papers must be sent to the Secretary of the Society not later than July 1, 1892.

Professor Quatrefages, of Paris, died in that city on January 13th, aged eighty-four. He was a member of the Académie de Médecine, and was well known for his writings on anthropology.

More Deaths from Chloroform in London.—During the second week in January two more men died in London hospitals as a tribute to British conservatism or obstinacy. A man, aged fifty, suffering from a fracture of the leg, died of chloroform poisoning at Guy's Hospital; and one, aged forty-five, with cancer of the tongue, was relieved of all further trouble in the same way at University College Hospital. It is getting to be very dangerous to fall into the hands of a London surgeon.

An Alleged Bacillus of Gout.—Dr. Edward Grün writes to *The Lancet* that he has, in three consecutive cases of acute gout, found the blood to be swarming with a long encapsuled bacillus, side by side with which numerous crystals of biurate of soda were to be seen. He promises to give a full description of the bacillus in a future communication.

The Origin of the Name "Grippe."—In a meteorological journal kept in Versailles, in 1743, it is stated that during the months of February and March there were

many cases of nasal and bronchial catarrh, and that "the king (Louis XV.) named this disease *la grippe*." In the same journal it is remarked that bleeding was not useful, but that those who had not been bled and who drank a great deal recovered much the most rapidly from the attack.

A Snuff for the Grip.—The powder of the root of *Ligusticum Levisticum* (lovage) has been highly recommended by several medical gentlemen as an antidote for the catarrhal and other symptoms of grip. It is used as an impalpable powder of the root and snuffed as an ordinary sternutatory, allaying the distressing symptoms in a short while and placing the patient in a comfortable condition. The German variety of lovage is said to possess the qualities named.

Another Case of Quintuplets.—Dr. J. M. Tracy writes: "Referring to your query as to the occurrence of quintuplets, I would say that in 1872, in Dubuque, Ia., a Mrs. Woodward was delivered of five well-formed infants weighing 1½, 1¼, 1⅞, 3, and 4½ pounds, respectively. Two gasped a few times only, one lived thirty minutes, one six hours, and one several days."

The Jacksonville Insane Asylum.—The telegraphic report of a scandal in this institution, referred to in an item in a recent issue, seems to have been incorrect. Dr. J. D. Fernandez, of that city, writes: "We have no insane asylum in Jacksonville, and never have had one, all the insane of the State being sent to the asylum at Apalachicola, where they are well and humanely cared for." We are glad to learn that the report was incorrect.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1892. Essays intended for competition may be upon any subject in Medicine, and must be received by the Secretary of the College on or before May 1, 1892. It is a condition of competition that the successful essay, or a copy of it, shall remain in possession of the College. CHARLES W. DULLES, *Secretary.*

A New Swedish University has recently been established at Gothenborg. It is to be entirely independent of State aid and control, an endowment fund of over half a million dollars having been subscribed by private persons.

Yellow Fever.—The usually well informed *Lancet* asserts in a recent issue that yellow fever is always found more or less in the southern part of the United States, and that "certain cities like New Orleans, Rio Janeiro, and Santos are frequently scourged with this disease." We wonder if the writer knows where the three cities mentioned are situated?

Mortality Caused by Wild Animals in India.—The mortality caused by wild animals in 1890 was considerably less than in the previous year, being a total of 2,460 against 2,724. Tigers and leopards accounted for the loss of 798 lives, and wolves 87. Returns more or less doubtful state that 64,500 cattle were destroyed by wild animals. A marked decrease has taken place in the number of wild animals destroyed, as the total for the year was only 14,604 against 17,638 in 1889. The total number of persons killed by snakes was 21,412, as compared with 22,480 in 1889. The number of snakes destroyed is returned as 510,659, of which four-fifths are said to have been killed in the Bombay Presidency. *Indian Medical Gazette.*

Drinking in the German Army.—German military papers publish alarming statistics as to the spread of drunkenness in the German army. In Saxony the consumption of spirits has somewhat diminished, but the diminution is more than made up by the drinking of beer.

Tuberculosis in Buda-Pesth.—Professor Fodor, of Buda-Pesth, asserts that that city occupies a bad preeminence among the large centres of population in Europe in point of its mortality from tuberculosis. The yearly average of deaths from that disease in the Hungarian capital is from 590 to 600 per 100,000 inhabitants. Professor Fodor attributes this state of things to the defective paving of the streets, owing to which the atmosphere is charged with an abnormal amount of dust. Taking this in conjunction with the recent closing of all the schools in the city owing to the prevalence of scarlet fever and diphtheria in the city, it seems as though the forthcoming meeting of the Congress of Hygiene at Buda-Pesth will be of the nature of a council of war held on the battle-field. With so much material for the most instructive object-lessons around them, the deliberations of the eminent sanitarians who take part in the proceedings should be of a highly practical character.—*British Medical Journal.*

An Italian Orthopedic Society.—The Italian Orthopedic Society was organized at a meeting of the chief representatives of the specialty in Italy held at Milan on December 20, 1891. The first annual meeting will be held in that city in April, under the presidency of Dr. Gamba, of Turin. Dr. Bernacchi, of Milan, is the provisional secretary of the new society

Epidemics Following the Earthquake in Japan.—The *Sei-I-Kwai Medical Journal* reports that typhoid fever has broken out in the prefectures of Aichi and Gifu, where there was so much destruction by the recent earthquake. It is also reported that simple conjunctivitis is prevailing in those places, and it is believed that the disease is due to the atmosphere being filled with ashes and dust after the earthquake and fire.

The Montreal General Hospital is to receive $60,000 through the will of the late Mrs. Phillips of that city.

Editorial Changes.—Drs. Nicolson and Stockton have retired from the editorial staff of the *Southern Medical Record*, their places being filled by Drs. Gaston and Westmoreland.

Consanguineous Marriages in Prussia.—According to a recently issued volume of the *Preussische Statistik* there were 240,996 marriages in that country in 1889, of which number 1,375 were between first cousins, 110 between uncle and niece, and 28 between nephew and aunt. Thus of every thousand marriages there were between cousins-german, 5.71, between uncle and niece, 0.46, and between nephew and aunt, 0.12

A Large Lipoma.—Dr. E. Hahn recently reported to the Berlin Medical Society the removal from a man, aged sixty-four, of a lipoma weighing over twenty-four pounds. It originated from the shoulder and extended along the posterior surface of the arm to the elbow, the free portion hanging down as far as the hand.

Suicide Among Physicians.—The *Boston Medical and Surgical Journal* notes the fact that physicians not only headed the list of suicides last year, but that they have headed it every year in the last ten. This promises to be still more conspicuous this year, as in the first twelve days of January no less than seven physicians committed suicide in the United States.

The Pan-American Medical Congress in the United States of Colombia.—A permanent organization of the coming Congress has been effected in the United States of Colombia by the election of secretaries of sections, and of the auxiliary committees, composed of delegates from the principal cities of the republics. The following medical societies have been selected as auxiliaries of the Congress: Academia Nacional de Medicina, Academia de Medicina de Medellin, and Sociedad de Medicina de Cauca.

The University of Dorpat, in the Baltic provinces of Russia, which has hitherto had German professors, and has been attended by German-speaking students, is to be Russianized, the government having given notice that after a certain date, in the near future, only the Russian language will be allowed in the lectures and examinations.

Suicides in Russia average 2,215 a year.

An International Congress of Obstetrics and Gynecology will be held in Brussels, September 14 to 19, 1892.

Trichinosis.—There is an epidemic of trichinosis in Russian Poland, and many deaths have occurred. In one village an entire family, containing eleven members was exterminated by the disease.

An Influenza Number.—The issue of the *Times and Register* is devoted to articles on influenza. But, alas! after reading it one weeps to find that the disease is still the same old, mysterious grip, and the means for its prevention, not to say cure, is yet to be found.

Dr. José Maria Romero, first president of the National Academy of Medicine of Peru, and dean of the Faculty of Sciences in the University of Lima, died last autumn in Lima.

A Congress of Socialist Students was held recently, and resulted in the adoption of a prodigious number of resolutions. Among other things they demanded the repeal of all laws against international labor organizations, the enforcement of one day of rest in the week, the forbidding of work underground for women and children, and they also insisted upon the adoption of various measures bearing upon the moral and material amelioration of woman's lot.

M. Moutard-Martin died in Paris the day before Christmas. He was president of the Académie de Médecine in 1890.

Another Editorial Change in Philadelphia.—It is somewhat puzzling to follow the changes in the editorial management of some of our esteemed contemporaries in Philadelphia. The *Therapeutic Gazette* has again changed editors, being now entrusted to the care of Drs. Hare, de Schweinitz, and Martin. Dr. Hare brings a ripe editorial experience, gained on several of the journals in Philadelphia, to aid him in his new undertaking.

Precautions against Yellow Fever in the Harbor of Rio de Janeiro.—In a letter addressed to the consuls-general in Rio de Janeiro, Dr. José de Souzada Lieviera, the inspector-general of the health of the port, says that all vessels upon their arrival in the harbor are visited by his aids, who instruct the captains in the hygienic measures which it is necessary to follow, such as the daily washing of their ships with carbolic acid and water, and the disinfection of the water-closets with chlorate of lime and chloride of zinc. The consuls are asked to use their authority to see that these rules are carried out, and to prohibit the sailors from coming ashore, as, owing to their excesses, they fall easy prey to yellow fever. They are also requested to instruct the captains to cease labor during the heated hours of the day, and to hoist the signal for medical visit as soon as the first symptoms of any disease are seen.

Mortality in the French Army.—In 1891 the mortality from all causes in the French Army was 5.5 per 1,000, by far the largest number of deaths being from tuberculosis and typhoid fever. In 1886 the mortality was 6.41 per 1,000.

A Medical Strike.—There is a vacancy on the medical staff of the hospital in Tilsit, Prussia. When the vacancy occurred the municipal authorities advertised for candidates, stating that the salary would be 1,000 marks ($250) a year. Thereupon the local medical society caused an announcement to be inserted in the paper, immediately below the advertisement of the city fathers, stating that the salary was too small and that none of the physicians of the place would accept an appointment for less than 1,500 marks. They also advised physicians from outside to think awhile before presenting themselves as candidates for the position, intimating that the lot of anyone accepting the appointment would not be a happy one. The mayor of the town acknowledges that the salary offered is very small and almost insulting in its minuteness, yet he thinks the city can buy some needy doctor for the price.

The Belgian Law against Hypnotizing.—Belgium is the first country to make hypnotizing an offence against the law of the land. The law recently approved by the Parliament in Brussels is as follows: "1. Whoever exhibits an individual hypnotized by him or by another shall be punished by imprisonment for from two weeks to six months, and by a fine of $5 to $200. 2. Any person, not a physician, having hypnotized an individual under twenty-one years, or one not in full possession of his mental powers, shall be punished by a fine of $5 to $200, even when the hypnotized individual has not been exhibited publicly. 3. With imprisonment shall be punished, moreover, every person who, with the intention of cheating or otherwise injuring, causes a hypnotized individual to sign a paper containing a contract, disposition, obligation, release, or declaration of intention. The same punishment shall be inflicted also upon the person deriving benefit from such a paper."

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 6, 1891.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Case of Thrombosis of Cerebral Sinuses.—DR. ANDREW H. SMITH related the case. Patient, male, aged thirty-two, unmarried; no specific history. Had not been feeling quite well for two or three days, but attended regularly to business. On the evening of October 10th he took a quinine pill on going to bed. At about 1 A.M. his brother, who occupied the room with him, was awakened by his loud breathing. He found him struggling violently, apparently in a convulsion, speechless, and seemingly unconscious. I saw him about an hour later. His whole body was then in a state of tetanic rigidity; the elbows and wrists flexed, and the thumbs extended and abducted. The head and eyes were turned to the left. Pupils symmetrical and responsive to light. The whole body was wet with perspiration, and the sheet, in which he had wound himself up tightly, was saturated. I have never seen such profuse perspiration even in a Turkish bath. The respiration was stridulous rather than stertorous, and accompanied by loud tracheal râles. There was at this time no puffing of the cheeks or lips.

The picture resembled so closely that of poisoning by strychnine, that my conclusion was that the quinine pill which he took on going to bed had contained by accident a portion of strychnia, and I sent out for chloroform and atropin as antidotes.

But before the messenger returned the spasm in the right arm began to relax, and attempts at voluntary motion were observed. A few moments later the patient took a handkerchief which was offered to him and wiped his face. A relative to whom he was much attached coming in at that time, there was evident recognition followed by loud weeping. Being told to put out his tongue, he was able to do so with difficulty, the point deviated to the left. The left side of the face was now seen to be relaxed, and the left cheek puffed somewhat in respiration. The whole left side remained rigid, and the slightest tap on the tendon of the patella would cause an excessive jerk. Right leg flaccid, patellar reflex absent. Swallowing difficult. Pulse at this time, 98; ax. temperature, 101° F. Supra-pubic region depressed and resonant on percussion.

The motion of the right arm soon became less, and gradually was replaced by paralysis. The mind seemed to be active for some time, and the eyes expressed realization of what had occurred. But little by little this was replaced by apathy, and at last by coma. Death took place forty-four hours after the attack. During the last twenty-four hours the temperature stood at 102° to 103° F.

Apparently no urine was excreted from the moment of the attack. Frequent examination always showed the supra-pubic region depressed and resonant. Soon a urinous odor began to pervade the whole body, and before death this was so marked that it was communicated to the hand when laid upon any portion of the surface. The relation of this anuria to the excessive perspiration is a question of interest. It seems scarcely probable that the inactivity of the kidneys was due to the extreme activity of the skin, as this would not account for the odor imparted to the perspiration. Nor can the reverse of this relation be accepted as probable, since the perspiration began with the seizure. Besides, suppression of urine is not ordinarily accompanied by marked increase of perspiration. It seems probable, therefore, that both conditions depended upon a common cause, and this may have been a vaso-motor paresis of central origin, and due directly to the intra cranial lesion.

Autopsy. *Dura Mater.*—Greater part of lateral sinus had a rather firm, friable clot in it, slightly adherent in part to the walls. In the right lateral sinus a large dark, friable clot, not adherent, with some brownish tints. In left lateral sinus, the same condition existed, but it was less abundant and less marked; same also in right petrosal sinus, but less firm and characteristic. In the left petrosal and straight sinuses similar material existed.

Pia Mater.—The vein which lies half an inch behind the fissure of Rolando on the lett side was distended and felt hard, as if filled with an ante-mortem clot, and the median end of the corresponding vein on the right side is in a similar state for about half an inch. The vein which runs obliquely across the middle of the convexity of the right temporal lobe is also hard.

Principal vessel in base of same lobe is firm, white, and completely occluded. The basilar arteries appear normal. Just at the origin of the left middle cerebral there is marked atheroma. Vertebral artery, just at its origin, has extremely thick walls, and the remaining lumen closed by what seems to be an ante-mortem clot. Venæ Galeni filled with a firm clot, principal vessel covering the pia mater in left cerebellum also filled with clot.

Right side of pons showed marked softening, with some yellowish and pink discoloration, also loss of structural markings. No other abnormal conditions.

DR. HERMAN BIGGS had seen two cases of thrombosis of the cerebral sinuses recently. The first was in the case of a young girl who had lately become an inmate of a house of prostitution of rather the better character. For some reason the house was raided by the police and she was taken to a station-house. She felt her disgrace very keenly, at first was violent, was apparently in an hysterical attack which gradually became less marked; but she remained quite nervous for about twenty-four hours, then grew morose and melancholic, and died at the end of about five days. The autopsy revealed absolutely nothing except complete thrombosis of the straight sinus, extending somewhat into the venæ Galeni.

The history of the second case was very similar. A woman was admitted to Bellevue apparently in a violent hysterical paroxysm. The symptoms became somewhat less marked. There was no rise of temperature. She gradually became very stupid and died, and at the autopsy they found thrombosis throughout the whole of the superior longitudinal sinus, extending into several veins of the convexity, and nothing else.

DR. R. F. WEIR remarked that it was probably superfluous to ask Dr. Smith and Dr. Biggs whether in their cases there was any aural affection. Surgeons, he remarked, were in the habit of looking through their own spectacles at these cases. They saw a great many cases of thrombosis of the lateral sinuses due to ear trouble, and were now also led to believe that the straight sinus was capable of being involved from aural disease. Cerebral thrombosis might also take place from naso-pharyngeal disease.

Dr. Smith and Dr. Biggs said there was no aural trouble in their cases.

DR. BIGGS said he had that day made an autopsy in a case in which there was found thrombosis of the superior longitudinal sinus, extending into the left and right lateral sinuses, and into the right superior and inferior petrosal sinuses, following fracture of the skull in the occipital region and most profuse serous discharge from the ear. The discharge continued about forty-eight hours, and it was estimated that not less than three ounces of serum was discharged from the right ear in twenty-four hours.

DR. A. B. BALL inquired of Dr. Smith whether his patient had been anæmic, and Dr. Smith replied, not particularly; he was a man of a good deal of energy and activity, and had complained simply of not feeling very well, but not of being sick.

Dr. Ball thought we should recognize two classes of cases of thrombosis of the cerebral sinuses. In the one class, the trouble started outside the cranial cavity, like in cases of aural disease referred to by Dr. Weir, or of in-

juries to the bones. The other class arose, as it were, spontaneously from trouble inside the skull, and their explanation was not very clear. The cases related to-night, he thought, were difficult to account for. The only case which he ever saw he reported about three years ago. It occurred in a servant girl who was in fair health, but had more or less marked chlorosis. She was taken suddenly with severe pain in the head, was obliged to go to bed, was brought to the hospital in a stupid condition, lived about three weeks, and at the autopsy marked thrombosis was found in most of the cerebral sinuses. He was able in a short time to collect records of twelve similar cases of thrombosis occurring in anæmic persons, and it would seem the accident was not infrequent in this class of patients.

We were apt to attach too much importance to the mere occlusion of the sinuses, whereas we had strong evidence that obstruction of one, or even of two or three, of the sinuses of the brain did no serious harm. Most of the sinuses emptied into the torcular Herophili; even those at the base were indirectly connected with it. In other words, there was free communication between the several sinuses, and occlusion of one or two did not seriously disturb the circulation. It had been shown by experimentation that, in dogs, nearly all the cerebral sinuses could be occluded without producing unpleasant effects. The experiments were carried out by occluding one after another of the sinuses with wax. It was found that on either side of the wax no thrombus had formed, proving that mere slowing of the blood-current was not the cause of thrombosis.

The diagnosis was difficult, yet if he should meet with a case presenting symptoms which his had presented, and which he had the opportunity to study for three weeks, he would strongly suspect thrombosis of the cerebral sinuses. The symptoms were different from those seen in any other cerebral affection, the difference consisting largely in their changing character. For instance, a limb which was paralyzed one day would be normal the next day, a pupil contracted one day would be dilated the next. Such changes would not be observed perhaps in the cases progressing more rapidly to a fatal issue. In his own case he did not even think of thrombosis of the cerebral sinuses, and he believed that was true of the history of most cases.

Dr. Kinnicutt said that the cases which he had seen presented the changeability in the symptoms mentioned by Dr. Ball—paralysis of a limb for one day only, and so on.

The President remarked that cases of thrombosis of the cerebral sinuses arising from ear disease, erysipelas, etc., were clearly due to sepsis, but where the thrombosis occurred in marasmus, rheumatism, etc., it was hardly probable that sepsis would account for it.

Stated Meeting, December 4, 1891.

George L. Peabody, M.D., President, in the Chair.

Fatal Jaundice without Obstruction of the Ducts.—Dr. Francis Delafield presented a verbal communication on this subject. He said: It is well known at the present time that the ordinary view held regarding the causation of severe and fatal jaundice is, that it must be necessarily due to some obstruction which prevents the bile formed by the liver from passing into the intestine. It seems to be the ordinary opinion that in all such cases the liver continues to produce bile, but that the bile, not being able to escape into the intestines, is re-absorbed, and then produces certain symptoms. There is still some difference of opinion as to the interpretation of these symptoms, but I think that every one will be agreed as to the ordinary clinical picture. If a person has cancer of the common bile duct, or calculus in this duct, or if he has chronic catarrhal inflammation or narrowing of it, the symptoms will be practically the same, quite independent of the cause of the obstructive jaundice. Such patients have a jaundice which increases steadily until death. They have very marked loss of nutrition, they lose flesh and strength rapidly, and in an appreciable degree. They have decided disturbance of the stomach and bowels; they have difficulty in taking food; they vomit more or less; they may have either constipation or diarrhœa; they have more or less itching of the skin, which belongs to icterus; they have a decided disposition to bleed from different parts of the body, from both the mucous membrane and the skin. Passing to the later stages of the disease, there regularly develop cerebral symptoms, as delirium alternating with stupor, and so they go on until they die. We have been told that such patients do not die from the accumulation of the bile in the blood and in the tissues, but from the interference with the functions of the liver. At all events, whatever the cause, such real obstructive jaundice always gives the same symptoms.

Now, besides these ordinary cases of obstructive jaundice, I think it is by no means uncommon to find patients behave in just the same way as if they had an obstructive jaundice, and yet in whom at death no obstruction is found. It seems to me that the frequency of such cases prevents our overlooking them. And until they can be explained we have something before us which cannot be made to agree with the prevailing theories of fatal jaundice. The patients who behave in this way and die from jaundice in exactly the same way as other patients who have obstructions of the common bile-duct, have, for the most part, hypertrophic cirrhosis. A smaller number have fatty liver, but most of them simply have hypertrophic cirrhosis.

As regards the character of the hypertrophic cirrhosis, the liver, though always large, may be either smooth or nodular.

The new-growth of connective tissue which belongs to the cirrhosis may be diffuse; it may surround small groups of the acini; it may surround large groups. The liver-cells may be normal; they may be granular; they may be fatty. In the new connective tissue we find the appearance of a new-growth of the bile-ducts, which at one time was supposed to be characteristic of hypertrophic cirrhosis, but which is readily seen in all the forms of cirrhosis, whether hypertrophic or not. The large bile-ducts are normal; they are empty, not dilated. The gall-bladder is of natural size; very often empty.

Now, this appearance of the large bile ducts and the gall-bladder is exactly opposite to that which we find in obstructive jaundice. If a person have a calculus in the common bile-duct; if he have a catarrhal inflammation of this duct, or a new-growth affecting the same part, and die of obstructive jaundice, we find the large bile-ducts dilated and containing bile; we find the gall-bladder, unless the cystic duct has been obliterated by previous disease, distended and containing bile. We find what we expect to find with an obstruction, that is, dilatation of the gall-ducts above; but in the other class of cases, the cases without any obstruction, it is always noticeable that not only is there no obstruction, but there is absolutely no dilatation of the bile-ducts or of the gall-bladder, and there is no accumulation of bile in the bile-ducts or gall-ducts, yet the liver itself will be regularly bile-stained. Still further, in going through all the large bile-ducts in these cases, nothing will be found out of the way. No thickening, no mucus, no evidence of any trouble whatever.

In the stomach there are the changes which one expects to find with any cirrhotic liver. There seems to be hardly any old cirrhosis of the liver without more or less catarrhal inflammation of the stomach. In the duodenum also there will be the evidences of catarrhal inflammation, and this might seem to be a reason for the jaundice. It might be supposed that these cases were like the ordinary cases of acute duodenitis which do produce obstructive jaundice, but yet the conditions are different. If an acute duodenitis produce a jaundice, you will find more or less accumulation of bile in the bile-

ducts and in the gall bladder. But in these cases, although there is an acute duodenitis, there is absolutely no dilatation, and no accumulation of bile in the ducts, or in the gall-bladder. Or if there is a slight amount of bile in the gall bladder, it can be pressed through the duct into the duodenum without the slightest trouble.

The kidneys in these patients present for the most part, unless they have previous chronic nephritis, the chronic degeneration which may accompany any obstructive jaundice.

The symptoms of these patients are those of an ordinary obstructive jaundice. I do not think, so far as the symptoms are concerned, that you could distinguish them from patients with a new-growth in the bile-duct, with a calculus in the bile-duct, or with a chronic inflammation of the bile-duct. They have a jaundice which increases steadily up to the time of their death, so that by the time they die the skin and all the tissues are discolored to an extreme degree. The urine, of course, contains bile-pigment, the fæces are white. In some patients, before the attack of fatal jaundice comes on there may be a history of attacks of slight jaundice which have come and gone. In some patients there will be a history of one or more ordinary attacks of gastro-duodenal jaundice, ordinary attacks of that kind with which we are all familiar, which run their course and pass over; but later the patient will have an attack of fatal jaundice.

With the increasing jaundice, which finally terminates fatally, they will have the ordinary inability to eat, the constipation and diarrhœa, the delirium and stupor; in some of them there will be a dropsy belonging to the cirrhosis, while in others this will be absent. In all the cases which I have seen, the disposition to bleed has been fairly well marked. In all of them the loss of nutrition has been very well marked. They all lose strength very rapidly, and in that condition they have died.

As regards the duration of the attacks, in the cases that I have seen, both during life and after death, they have lasted between three weeks and four months. What I have said positively belongs altogether to cases which I have followed to the post-mortem table.

Besides these positive cases, there was of course a larger number which were seen during life, and not after death. And it is the bearing of the certain cases upon the uncertain ones which seems to me a matter of interest. We all know that with cirrhosis of the liver, especially hypertrophic cirrhosis, jaundice is a symptom, and that it manifests itself in different ways; that some of the patients have attacks of jaundice which behave like ordinary attacks of acute gastro-duodenal jaundice, which last through days or weeks and disappear, and that is the end of the matter. I presume that those are examples of ordinary obstructive jaundice due to gastro-duodenitis. Then, besides these there are other patients who, although they have a little jaundice off and on, do not have a great deal; they do not seem to be poisoned by it. With this more or less jaundice they have no evidence of gastro-duodenitis, and I do not think that we have ever known what was the real cause of the jaundice in this class of patients. Then there are other patients (and these cases are perhaps of more practical importance) who for a long while have a good deal of jaundice. For example, I have under observation at present a lady, who for the last three years has been a good deal jaundiced all the time, sometimes more, sometimes less. She is always a good deal jaundiced, and yet at the end of three years she is able to be up and out of doors and look after her affairs. These cases of decided jaundice are, I think, of practical interest, because of the importance of knowing what is best to do for them.

When you see patients who are very decidedly jaundiced, and have been so for a considerable time, you naturally think that they have either a calculus in the common bile duct, or that they have a new-growth, or a chronic inflammation of this duct. If it is an old case you exclude a new-growth, because you know that that would destroy life within a moderate length of time. Thus you are brought down to the possibility of a chronic inflammation of the common bile-duct, or of calculus of the common bile duct. If the jaundice comes and goes, and if the attacks become worse and there is a rise of temperature, there certainly will be a good deal of reason for believing that the trouble is a movable calculus in the common bile-duct. Attention was called to that condition by Dr. Osler some time ago, and I suppose we all know that that is apt to be the case. For that reason I think it is of practical importance to recognize the fact that you may have a jaundice which exactly resembles an obstructive jaundice, and which can destroy life in just the same way, and yet after death you will not only find no obstruction, but absolutely nothing about the bile-duct or gall-bladder to make you think that obstruction was possible.

Dr. Kinnicutt said that the type of disease described by Dr. Delafield was of great practical interest.

A single criticism might be permitted, however. It was that the jaundice *per se* was not necessarily the cause of the grave symptoms and death in these cases. It was well recognized that very similar symptoms not infrequently occurred in various forms of hepatic disease, with or without jaundice. In certain cases of hepatic cirrhosis, similar profound disturbances of the nervous system were developed with little or no jaundice. Dr. Kinnicutt personally had been inclined to ascribe the train of symptoms detailed by Dr. Delafield, rather to a grave perversion or arrest of the functions of the liver, through which an accumulation of poisonous matters in the general circulation occurred, than to the mere presence of the constituents of the bile through absorption in the blood. This was in accordance with the theory of Murchison, Frerichs, and others.

Dr. Andrew H. Smith mentioned the fact that cases of jaundice had been reported due to strong emotion or other disturbance of the nervous system, and he thought it possible an analogous form of jaundice might arise from disease of the nerve supply of the liver. He had at present a case of jaundice in the Presbyterian Hospital which had existed for five months. The patient was nearly black, yet the obstruction was not absolute, since the stools were yellow and not clay-colored; there was the usual staining of the urine with bilirubin; the patient was very much emaciated. In this case there was no apparent change in the dimensions of the liver, no tumor could be felt. It was a singular fact that, while the skin was so deeply stained, the conjunctivæ were white.

Dr. Smith also mentioned the case of another patient, who had been sent to the hospital with the history of having had a similar deep staining of the skin for over six months. He died suddenly, and while there had been no history whatever of syphilis, yet they found gummatous tumors disseminated throughout the liver which were the only apparent cause for the jaundice, and it was assumed that they must, in spite of the negative history, have been of syphilitic origin.

Dr. Delafield said the theory which had been repeated by Dr. Kinnicutt had always seemed to him eminently unsatisfactory. This became apparent in comparing cases of obstructive jaundice due, say, to new-growth of the bile-duct, and the way in which they died, with the rare cases of cirrhosis in which the functions of the liver were apparently abolished. There were cases of cirrhosis of the liver, though rare, which had no dropsy, and they died from the cirrhosis or loss of function of the liver, without any lesion of any other part of the body. They showed the same loss of nutrition, they had toward the end the same cerebral symptoms as the cases with obstruction, yet he could not understand how one, on looking at both types, could say that they had essentially anything to do with each other.

While he hardly felt himself ready to break loose from the accepted theory that, to have a fatal jaundice, there must ordinarily be obstruction and the bile become re-

absorbed, yet he could not shut his eyes to the fact that there were fatal cases in which there was no obstruction apparent

DR. KINNICUTT said that the varying degrees of jaundice which occurred in the grave forms of anæmia had been explained by the destruction of the red blood-corpuscles, which occurred in a marked degree in these cases. The hæmoglobin thus liberated evidently underwent certain chemical changes, and was converted into a pigment which gave all the reactions of bilirubin. Might not a similar process be accepted as an explanation of certain cases of jaundice without obstruction?

Remarks on Subdiaphragmatic and Rectal Abscess of Appendical Origin.—DR. R. F. WEIR then read a paper with this title. (See p. 173.)

DR. GEORGE F. SHRADY remarked that he had had no experience exactly similar to that related by Dr. Weir, but called to mind two cases of abscess of the vermiform process, one which burrowed its way up into the region of the liver, for which he made lumbar drainage, and another which he drained from the front. Both patients recovered. He had one case of abscess opening spontaneously into the rectum, which, after tedious treatment, finally recovered.

In another case, which had been neglected for a long time, the patient living in the country and being without medical assistance for a long period, the abscess seemingly had taken its rise at the vermiform process, burrowed up into the lumbar region a considerable distance, then downward, and it appeared to him, when he saw the patient, that it had found its way under Poupart's ligament and beneath the fascia of the thigh. He made free drainage in the groin and also in the posterior portion of the thigh, but the patient did not survive the operation long and died from exhaustion. At the autopsy a pus communication was found through the obturator foramen, which was rather unusual; the abscess also communicated with the bladder, and the patient had discharged pus with his urine for some weeks before he died.

DR. W. T. BULL had seen but one instance in which a suppurative inflammation in the neighborhood of the appendix vermiformis had led to a subdiaphragmatic abscess, and but one in which it had led to an abscess in the neighborhood of the rectum; but these two conditions were present in the same case. He said he did not think we should make our inability always to determine the exact limit of the pathological process involved in catarrhal appendicitis an excuse to operate in every such case. He asked Dr. Weir whether he had not recommended such extreme interference.

DR WEIR replied that he did not know that he had mentioned it.

DR. J. D. BRYANT said his own experience with cases of the kind reported by Dr. Weir had been limited to two. In both the abscess extended up to the liver, and occurred in hospital practice; in one, the symptoms were referable almost entirely to the supposed seat of the disease between the crest of the ilium and lower ribs on the right side; an incision was made in the flank, and a large cavity was found extending upward, as before remarked.

The other case he saw in consultation, and from experience with the previous one he ventured to predict that a large abscess existed behind the colon. He was unwilling to say whether it did, or did not, extend up to the liver. It appeared to be, in all probability, secondary to inflammation located over the colon, presumably intraperitoneal, which had subsequently extended to the situation which it occupied at that time. An operation was performed, and afterward the autopsy revealed facts entirely confirmatory of his diagnosis.

The reason for the extension of the abscess in this direction, or that, depended upon the anatomical situation of the vermiform appendix. At the last meeting of the Medical Society of the County of New York, he had given an analysis of one hundred autopsies with regard to the relations of the vermiform appendix to the colon, sigmoid flexure, etc. In one of the hundred cases the appendix was found behind the colon, extra-peritoneal, extending up to the liver. In another case it was behind the colon, but extended up toward the right flank, not going nearly so far as in the previous one. It was fair to assume that had the appendix in these cases been attacked by disease the abscess might readily have extended to the liver. In quite a number of cases, however, the appendix was situated directly behind the cæcum, and in them it would seem that, had perforation occurred, the inflammation might easily have followed the course described by Dr. Weir.

The speaker said he had had no experience bearing on the question of abscess extending into the pelvic cavity as a result of disease of the appendix. He had operated in one case in which he found the vermiform extending just through the brim of the pelvis, but not farther. He might add that in a number of the hundred autopsies referred to the appendix extended into the pelvis, and even down to the rectum.

THE PRESIDENT said that some years ago a patient came under his care, the last weeks of his life, who was remarkably emaciated, had high fever, distended abdomen, very great tenderness over the abdomen, and apparently there was fluid in the cavity. He gave a history of nearly a year of pain in the abdomen, fever, frequent chills, and some sweating, and latterly distention of the abdomen. He supposed he had to deal with a case of tubercular peritonitis. At the autopsy, which occurred a few days after the patient came under his observation, he found an old abscess in the neighborhood of the appendix, which had passed up to the right of and behind the colon, entered the liver, and formed in it an abscess-cavity capable of holding a quart of pus. This hepatic abscess had ruptured through the lower border of the liver into the general peritoneal cavity, and produced purulent peritonitis, from which the patient was suffering when he came under his observation, and from which he died.

It might also be of interest to the Society to know that he had made an autopsy on the body of a former member of the Society, who had once given an account of an attack, evidently of abscess of the vermiform appendix, which had occurred to him during school life, years before any operation for this disease had been practised. Dr. Peabody found at the autopsy no vermiform appendix at all; it had been totally obliterated and its place taken by a fibrous band. This seemed fair evidence that the appendix had disappeared with the pus at the time of the attack, many years before.

DR. BRYANT recalled the case of a person in the city who had been treated for abscess of the liver; the abscess had been opened and recovery followed. Death occurred some time afterward from an entirely different cause, and it was found that the original cause of the first trouble had been an appendicitis.

DR. W. M. POLK said that he had once related a case before the Medical and Surgical Society in which he made an opening for appendicitis in the situation described by Dr. Weir. The case was then six days old, and on the eighth day the pleura became involved, which rapidly produced a very large collection of fluid. At the end of a week evidence of active inflammation had subsided, and the patient recovered. He thought the suggestion with reference to operating through the rectum was a very important one. He recalled the case of a boy who had an attachment of the appendix down in the pelvis, and had he opened through the rectum, he believed the patient would have recovered. Having opened in the usual locality, the patient died, and at the autopsy the greater part of the inflammation was found confined to the pelvis. He had repeatedly seen the appendix located in the pelvis, in some instances extending even across the pelvis to the left side, the cæcum, of course, being on the right side.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-sixth Annual Meeting, held at Albany, February 2, 3, and 4, 1892.

(Continued from p. 160.)

THIRD DAY, THURSDAY, FEBRUARY 4TH.

Annual Reports.—DR. PORTER, Treasurer, read his report, which showed a balance in the treasury. The report of the Committee on Prize Essays was read by the Secretary. Only one competing essay had been received, which, while deserving, was not considered as coming quite up to the standard for the prize. Dr. Currier's proposed amendment to the by-laws, affecting the initiation fee of permanent members, was rejected.

Auxiliary Committee on Legislation.—The following was passed: *Resolved*, That the Medical Society of the County of Albany be requested to appoint an auxiliary committee on legislation of five members, to co operate with the Committee on Legislation of the State Medical Society when especially requested to do so.

DR. DANIEL LEWIS explained that the object of the resolution was to have some person present at the Capitol to represent the Society in opposition to bad bills, when it should happen that the members of the Committee on Legislation appointed by the State Society could not be present.

Report of State Board of Medical Examiners.—DR. W. W. POTTER read the report of the members of the Board who had been appointed on recommendation of the Society. The Board desired that the law creating the board of examiners remain at present unchanged. The report was accepted and a motion was passed, requesting that a published record be made by the board of those passing their examinations, so that county societies, and others interested, might know who were legally entitled to practise.

DR. FLOOD read the report of the committee appointed to consider the points raised in the President's inaugural address. The points were in general endorsed. They involved no important action. The recommendation regarding the Pan American Medical Congress led to a resolution appointing a special committee of five, the President to be ex officio chairman, to take into consideration matters relating to the Congress.

DR. LUCIEN HOWE moved the appointment of a committee of three, of which the President was to be chairman, to confer with medical societies of other States with a view to some concerted action for re-establishing the National Board of Health. It was adopted.

Orbital Traumatism Resulting in Immediate Monocular Blindness from Fracture of the Optic Foramen; One Case of Blow over the Left Eye Causing Blindness of the Right Eye.—DR. PETER A. CALLAN read the paper, in which he described four cases of immediate monocular blindness following injuries to the head, which, from the symptoms, had evidently caused fracture at the foramen through which the optic nerve passed to enter the cranium. Autopsies, however, had not confirmed the existence of fracture in his cases (the patients being yet alive); but that such was the source of the blindness seemed more than probable from the nature of the injuries, the symptoms produced, and especially from the results of autopsies in similar recorded cases. Their number, however, had been comparatively small, only eighty besides his own, which fact led him to publish these. At first there were no ophthalmoscopic changes, but after two weeks or more the optic nerve showed a neuritis.

DR LUCIEN HOWE put one case on record, that of a young man who got caught and hung on a butcher's hook, the point of which engaged under the orbital arch.

Methods of Advancing the Internal Rectus Muscle for Divergent Strabismus.—DR. LUCIEN HOWE, of Buffalo, read the paper. The method consisted in passing two sutures instead of one, as in Prince's method. The objection to the one suture, or Prince's, method, was that it caused a puckering and left a lump which, in young ladies particularly, was objectionable. The divergence, it should be remembered, should always be somewhat over-corrected.

The Danger of Milk of Tuberculous Cows.—DR. E. F. BRUSH, of Mount Vernon, did not exaggerate the danger of milk from tuberculous cows, but at the same time stated that in persons of depreciated health, it might at any time give rise to tuberculosis, and it was desirable, therefore, that milk should be obtained from cows known to be free from this disease. Doctors should make themselves better acquainted with the conditions under which cows were most likely to develop tuberculosis, with the methods of taking the temperature of cattle, the signs of tuberculosis, etc. Yet he had never been able to associate death in the infant directly with tuberculosis in the cow from which milk was obtained. But negative evidence of this kind should not count against known dangers. It was doubtful whether milk could be perfectly sterilized against the bacillus tuberculosis, at least by boiling, and attempts in this direction must depreciate its nutritive qualities.

Election of Officers.—*President*, Lewis S. Pilcher, of Brooklyn; *Vice-Presiaent*. H. L. Elsner, of Syracuse; *Secretary*, F. C. Curtis, of Albany; *Treasurer*, C. H. Porter, of Albany; *On Arrangements*, Bendell, Powell, Nellis; *By Laws*. Simmons, Wey, Curtis; *On Hygiene*, Laurence Johnson, Brush, Bell, Burr, Balch, Herman, Peck; *On Legislation*, Roosa, Daniel Lewis, Lewi; *Ethics*, Jacobi, Matheson, Glass; *On Prize Essays*, Fox, W. W. Potter, and Roe; *On Publication*, Curtis, W. W. Potter, Porter, Bailey; *Honorary Members*. McMurtry, of Louisville; Reid, of Cincinnati; W. E. B. Davis, of Georgia; Wright and Ross, of Canada. Numerous delegates were appointed to other societies.

Aluminium in Orthopedic Apparatus.—DR. S. R. MORROW, of Albany, presented a hip splint made of aluminium, which was about one-third the weight of the ordinary iron or steel instrument, and for this reason possessed marked advantages, especially in young patients. He thought the same material would come to take the place of the heavier metals in other orthopedic apparatus. It also showed little tendency to become tarnished.

DR. A. F. CURRIER had made some use of this metal in surgical instruments, where it possessed advantages because of lightness and cleanliness and resistance to antiseptics.

Biliary Calculus: Its Diagnosis and Treatment.—DR. C. W. DEBAUN read a paper with this title. In mild cases, heat and medicinal agents would probably give relief. Among solvents of stone the most efficient were the sulphate and phosphate of soda. Surgical aid should be given in painful and persistent cases

An abstract of a paper by Dr. Boardman Reid, of Atlantic City, entitled "The Teachings of Experience and Rational Therapeutics as to the Treatment of Pneumonia," was read by a member. Many other papers were read by title.

A vote of thanks was tendered Dr. Suiter for his able services as President.

After appropriate remarks by DR. SUITER, who introduced his successor, DR PILCHER, and expression of thanks by the latter for the honor conferred upon him by election to the highest and most responsible position of President, the Society adjourned.

Death from Chloroform.—The *Hospital Gazette* has stereotyped this heading, and the editors say that they have had no reason to regret the outlay. It is simply amazing to think of the apathy of the profession in the matter of the fatal effects of chloroform. How certain hospital surgeons can go on, day after day, and year after year, giving a dangerous anæsthetic when a much less dangerous one is at hand, is one of those things that it is difficult to understand.—*Montreal Medical Journal.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MR. ROSE'S LETTSOMIAN LECTURES ON THE SURGICAL TREATMENT OF TRIGEMINAL NEURALGIA — MADURA FOOT — ULCERATIVE ENDOCARDITIS OF PULMONARY VALVE — THROMBOSIS OF SPLENIC VEIN ASSOCIATED WITH INFARCTS IN THE SPLEEN.

LONDON, January 23, 1892.

IN the Lettsomian Lectures now in the course of delivery before the Medical Society of London, Mr. William Rose has selected for his subject, "The Surgical Treatment of Trigeminal Neuralgia." In his first lecture, after discussing the causes and classifying them, he gave some account of the pathological anatomy of the affection, referring to Professor Dana's recent paper in *The American Journal of Mental and Nervous Disease*. The leading symptoms of a typical case were then described. The lecturer then passed on to the subject of treatment and, after a brief allusion to medical treatment by drugs, hypnotism, etc., proceeded to discuss the various surgical procedures employed. The first and simplest method—neurotomy—was, he said, suggested by Albinus and Galen, and first carried out on a branch of the fifth nerve by Schlichting and Maréchal about one hundred and fifty years ago. The results of the earlier operations, however, whether neurotomy or neurectomy, were not satisfactory. In 1860, Nussbaum, of Munich, accidentally discovered the value of nerve-stretching as a means of treatment. It was now practically admitted by almost all surgeons that nerve-stretching should be retained as a means of dealing with neuralgia of mixed nerves only, and it was undoubtedly beneficial in some such cases. But with the fifth nerve, which was almost entirely sensory, no permanent relief could be expected from the operation, and neurectomy was infinitely to be preferred. Probably in all cases of neurectomy a certain amount of stretching of both central and peripheral ends accompanied the manipulations necessary to free the trunks, and it was an open question whether such traction had any beneficial effect or otherwise. It was now a tolerably well-established fact that central changes could result in those instances where the nerves passed directly through short, straight canals to the central organ. The lecturer said that ligature of the carotid artery had been employed as a means of treatment but, as one case thus treated had ended fatally, he would exclude it, except as a last resort. It might be employed if pain recurred after removal of the Gasserian ganglion.

The second lecture was devoted to discussing the various operations on the different branches of the fifth nerve. Where neurectomy of the first, or ophthalmic, division of the nerve was necessary, the orbit must, said the lecturer, be opened by division of the orbito-tarsal ligament, the orbital fat depressed by a spatula, and the nerve, freed from its connections, lifted on a blunt hook; it should be divided as far back in the orbit as possible.

In the case of the second, or supra-maxillary, division all that was needed to expose the foramen was a transverse incision extending through the orbicularis and separating its fibres. By a careful dissection the nerve could be seen emerging from the foramen and half an inch of it could be removed. (The lecturer condemned the subcutaneous or submucous method of division formerly in vogue, in which the surgeon simply passed a tenotome into the foramen and twisted it round.) In order to expose and excise larger portions of the nerve, three distinct plans had been suggested and practised, which might be named respectively, the *orbital*, the *antral*, and the *pterygo-maxillary*. Several different operations had been suggested under the first of these headings, notably Langenbeck's and Wagner's. In the former the infra-orbital foramen was first exposed by a transverse incision, and the nerve freed at its point of exit and secured by forceps. Dieffenbach's tenotome was then entered close to the outer canthus, just below the outer palpebral ligament and passed backward along the anterior border of the pterygo maxillary fissure, which was crossed by the nerve about an inch behind the orbital margin. The knife should be kept close to the bone and not inserted too far, lest the spheno-maxillary fossa be entered and serious hemorrhage result. By withdrawing the knife carefully and keeping the edge closely applied to the bone the nerve could be divided as it entered its canal. Traction or torsion upon the peripheral end would enable the whole length of the nerve to be removed and the dental branches given off in its course to be torn through. Malgaigne made a similar preliminary incision, but divided the nerve as it entered the bone by passing a tenotome along the floor of the orbit. The great objection to both of these proceedings was the hemorrhage which resulted from the division of vessels in a situation inaccessible to ligature and the uncertainty which attended the use of a knife at such a depth. Moreover, the nerve was divided in front of Meckel's ganglion, and probably of the posterior dental branches. With a view of meeting some of these conditions Wagner introduced a different method, viz.: he raised the orbital contents from an incision running transversely below the orbital margin, laid open the infra-orbital canal with a chisel, separated the artery from the nerve with a special aneurism needle having a lateral curve, and divided the nerve behind the origin of the dental branches. Professor Horsley's plan of operating was practically the same as Wagner's; he stitched the eyelids together as a preliminary precaution.

The lecturer then discussed the antral method. a method, he said, which was devised and originally introduced by Carnochan, of New York, in 1858, in order to remove Meckel's ganglion as well as the nerve. Twenty-two cases of the operation were collected and brought before the Royal Medical and Chirurgical Society in 1884, by Chavasse, but only three of these seemed to have derived permanent benefit, so the results of the operation were not encouraging. Of five cases similarly treated by Mr. Treves, the neuralgia recurred in four cases, while the fifth patient died of cancer within six months. Von Bruns and Otto Weber had introduced a modification of this operation. The third means of dealing with this division of the fifth nerve, viz., the pterygo-maxillary operation, was originally suggested by Professor Lücke, and subsequently modified by Professors Braun and Lossen. The advantages of this operation were that the cicatrix would be less obtrusive on looking at the patient full-face, and the hemorrhage would be less, in that the internal maxillary artery could be secured before the fossa was opened; moreover, the antrum was not opened, and the risk of septic contamination of the wound considerably diminished.

After describing the surgical anatomy of the third, or inferior maxillary, division of the fifth nerve, Mr. Rose remarked that the inferior dental nerve could be exposed in three situations—at its exit from the mental foramen, in the dental canal, and above the dental canal. The lecturer said he always had recourse to the higher operation, as the results of the other two were unsatisfactory. There were three methods of performing it, viz., the intra-buccal, the retro-maxillary, and the trans-maxillary. The latter operation promised to be the most effectual, and was, perhaps, that most generally adopted in the present day; it was usually accomplished by deepening the sigmoid notch.

The want of success attending these methods had led surgeons to extend the scope of their operations to the base of the skull, hoping by division of the nerves at their points of emergence, and by a more extensive removal of the nerve trunks, to obtain results of a more permanent character. Three different plans had been suggested and practised for re ching the foramen ovale, viz., 1, Pancoast's method, with various modifications suggested

by Salzer, Krönlein, etc.; 2, the Lücke-Sonnenburg method; 3, the plan of deepening the sigmoid notch, as practised by Mr. Horsley, himself, and others. The lecturer said he considered the latter the best method, not only for reaching the foramen ovale, but also for removing the largest extent of the trunks. He described this operation in detail, and said he had performed it repeatedly within the last seven or eight years with comparative ease, and with relief to the patient for the time being; he confessed, however, that in by far the majority of cases the pain recurred at the end of a year or two, necessitating the further measures which he would detail in his next lecture.

At the last meeting of the Pathological Society, Mr. A. A. Kanthack showed a hand and foot affected with fungoid disease (Madura disease); they had both been amputated by Dr. Browning, of Madura. Dr. Chaplin read a paper on a specimen of ulcerative endocarditis of the pulmonary valves. Dr. Rolleston showed a specimen of thrombosis of the splenic vein, associated with infarcts in the spleen which had some features of interest, viz., the association of complete thrombosis of the splenic vein with death of limited portions of the spleen, so as to produce the appearance of infarcts due to embolism of the splenic artery, and the fact that these infarcts were anæmic, and not hemorrhagic, as from the venous stasis would have been expected.

FORMING THE CHARACTER OF THE UNBORN INFANT.

To the Editor of the Medical Record.

SIR: It may seem rather late to again bring up the subject of maternal impressions. But there is a side to this question which I have not seen touched upon. If the reader of this ever indulges in novels to any great extent, he has probably read, or at least heard of a novel, which only a few years ago attracted considerable criticism, both friendly and adverse.

The novel I refer to is "Mal Moulée." In all the criticisms I ever read the main subject matter, maternal impressions, seemed to meet with little comment. In describing the characters of the heroine and her schoolmate friend, there was ascribed to each certain governing characteristics, exalting and beautifying the life of the one and finally wrecking that of the other, and which seemed to be largely due to maternal impressions. The authoress, I think, sought to present her own and her mother's views upon the subject, thoroughly believing her own sweet rhyming to be the result largely of such prenatal forces.

The authoress's mother upon one occasion imparted to the writer her opinion in the premises, supplementing them by the following illustrations. The words and sequence of pregnancies are, so near as I remember them, her own.

"Now, doctor, I do believe in maternal impressions, and for very good reasons, as I'll tell you. When I was first pregnant I wished my offspring to be a musician. So during the whole period of that pregnancy I settled my whole mind on music, attending every musical entertainment I possibly could. I had my husband, who has a fine violin, and who is a good violinist, play for me by the hour. When the child was born it was a girl, which grew and prospered, and finally became, as you've undoubtedly heard, an elegant musician, a first-class one.

"During the period of my second conception I wished the offspring to be an editor, and I bent my whole mind to the attainment of such result. I read the papers almost continuously, paying especial attention to the leading editorials of such of the great periodicals and dailies of that time as I could lay hands on, even neglecting some of the smaller household duties in my efforts to attain the desired results. The child being a male, I expected my hopes to be realized. And, although doomed to disappointment, everyone who reads his letters says he ought to have been an editor.

"When I was carrying my third child, I put my whole energies to bring forth a poet. I read poetry, doted on it, lived in it, and when, during waking, unable to read it, I thought of it, and when asleep dreamed of it. And, Byron being my favorite poet, I devoted to him more than a due proportion of my reading, and, doctor, my daughter is a poetess, and her poems partake so much of the noble grandeur of Byron that her critics have often asked her why she didn't copy someone else part of the time.

"When I became next pregnant my desires had been satisfied, and I didn't care what he was, and he is."

While not convinced, I had to acknowledge that she had the weight of evidence against me. For, as she had said, in regard to those facts with which I was not personally cognizant, I had heard her assertions corroborated by those who were old acquaintances. Was she right or wrong? I give it up. But of this much I feel assured, that anyone, especially a prospective mother, can, by a careful perusal of "Mal Moulée," do herself no possible damage and may place herself in the way of vastly improving that portion of the world she is destined to repopulate.

F. W. MOFFITT, M.D.

SUPERIOR, NEB.

FAVORITISM AT THE NEW YORK ACADEMY OF MEDICINE.

To the Editor of the Medical Record.

SIR: At the risk of harping upon an outworn theme, I would venture to add my approval of the various criticisms which have recently appeared in your columns regarding the management of discussions at the Academy of Medicine. Dr. Amidon's protest, although rather severe, was just. It is a fact that the discussions are practically open only to a favored few. As one of the younger generation of gynecologists, I am obliged to acknowledge that the gentlemen who devote themselves to pelvic affections are among the principal offenders. The curious reader will find that all papers on this subject which have been read during the past ten years, have been discussed by not over a dozen or fifteen gynecologists, whose ideas have been re-vamped until they have become quite threadbare. These gentlemen are veteran speakers, accustomed to lecture to medical students, their knowledge is supposed to be at their finger-ends; yet they invariably take twenty minutes to say what could be condensed into five. Herein lies the injustice of the present system—not so much the fact that the same gentlemen are always "billed to appear," but that they are always allowed as much time as they wish in which to present their twice-told tales, while those who follow them are summarily cut short. Personally, when I am asked to discuss a paper and find that I am to be preceded by several of these "war-horses of debate" (as Dr. Amidon wittily describes them), I invariably absent myself, knowing that, if called upon at all, I shall be grudgingly allowed three or four minutes at the tail-end of the meeting. This is the age for young men. They cannot and will not be "sat upon," either in the practice of medicine or in scientific discussions.

GYNECOLOGIST.

ALLEGED MAMMÆ ERRATICÆ.

To the Editor of the Medical Record.

SIR: I have just read Dr. McGillicuddy's paper on "The Mammæ and their Anomalies," in your issue of October 10, 1891. During the last twenty-five years an immense number of cases of supernumerary mammary structures have been recorded, and the literature of the subject has become quite prodigious. Several of Dr. McGillicuddy's cases of alleged mammæ erraticæ are, however, so *bizarre*, and altogether unparalleled by anything of the kind pre-

viously published, that I think they ought to be very critically examined before they are definitely accepted as being what they purpose to be—true supernumerary mammæ. So many fallacies are possible—nay, probable—in the diagnosis of such anomalies, that we ought not to accept alleged unique cases without most conclusive evidence as to their real nature. Now, it is just in this respect that several of Dr. McGillicuddy's cases are, I think, open to grave objection. For instance, in Case IV. (Fig. 5) he has described an instance of alleged mamma erratica in a situation where such an anomaly has never before been observed, *i.e.*, on the lateral aspect of the thorax (R.) over the eighth rib. The only evidence adduced in favor of the tumor being a supernumerary mamma is (1) that it is said to have been noticed at birth; (2) that she had pain in it at the menstrual period. Nothing is said as to nipple or areola. In establishing the identity of such a tumor with a supernumerary mamma, this evidence has of course no weight. Again, in Case VI. (Fig. 7) we have a man with a tumor at the back of the left thigh, just below the gluteal fold, and we are told that this also is a supernumerary mamma. We ask why? The only answer is because (1) his sister states it was first noticed at birth; (2) it has a lobular structure like the normal breast of a young woman. There was no areola or nipple.

Considering the frequency with which congenital angiomata, lipomata, and fibromata have been mistaken for supernumerary mammæ, such evidence is of course absolutely worthless for making the differential diagnosis. Never having seen the patients myself, I can offer no opinion as to the nature of the tumors in these cases, but must simply content myself with pointing out that the evidence adduced in favor of their being supernumerary mammæ is altogether inadequate. On the grounds of general morphology also, there is much to be said against the acceptance of these cases as true mammæ erraticæ, but I cannot enter on that aspect of the question in this brief letter. I must refer those who care to pursue the matter further, to my essay on "Polynestism with Special Reference to Mammæ Erraticæ, and the Development of Neoplasms from Supernumerary Mammary Structures," in the *Journal of Anatomy and Physiology*, January, 1891, p. 225.

Yours truly,
W. Roger Williams, F.R.C.S. Eng.

Preston, January 20, 1892.

THE PERINEUM; HOW TO SAVE IT?

To the Editor of the Medical Record.

Sir: In your issue of December 5, 1891, Dr. N. W. Rand has an article on the above subject, which I think calls for some notice. Drs. Tucker and Gasser have, I see, in your issue of December 19th, already subjected the paper to well deserved criticism, demonstrating how the method of saving the perineum advocated by Dr. Rand is one that must appeal to all physicians endowed with that most important essential for a medical man, commonsense. Although my object in writing this is not specially to deal with Dr. Rand's method, seeing that the two doctors above mentioned have already proven it to be no "lost art," yet I think the following case will show how useful it may be at times. About eight years ago I was summoned one dark night to attend a woman in labor, living in an almost inaccessible spot. On arrival I found the patient, a young black woman, about fourteen years of age, in what may truly be called a hovel. By the aid of an improvised kerosene lamp I began my examination, when to my surprise I found the young woman the possessor of a vagina into which I could only with ease insert one finger. This was due to narrowness not only of the orifice, but the whole length of the vagina. I involuntarily said to myself, "Something will have to give way to night before a child can come into the world." Not being green, however, to the work, and knowing the dilating power of the organ, I set to work by the method mentioned by Dr. Rand, and after about an hour's work, had the satisfaction of seeing the head distend the perineum; when resorting to Goodell's method, I was much relieved at seeing a child of fair size born into the world, leaving behind an intact perineum. Certainly by no other means than the two methods combined could the child have been born without the mother's parts being badly lacerated. So much, then, for the method advocated by Dr. Rand. I come now, however, to the gist of my communication. Dr. Rand, to me, is astray as to the application of Goodell's method. The method is not, although often described in that way, the drawing of the whole perineal body over the head with each pain, but only when the head is emerging. Applied at each pain, it would certainly be disagreeable to both patient and physician, but when done at the right time I fail to see its objection on that score to either party concerned. Goodell's method is one that I have used for years, with, I must confess, very great success; and such a result is, I believe, claimed by all who practise it. That being the case, the question is, what is the *rationale* of its success? To answer that, let us see what takes place when the head is emerging in, say, the occipito-anterior position. In the words of Lusk, "So soon as the bi-parietal diameter passes the tense border of the vulva, the perineum retracts rapidly over the face, and the expulsion of the head is completed." It is during this period, he says, that laceration is most liable to occur. Let us see why it should be so. It is because the strain commencing at the passing of the bi-parietal diameter, is continued by the expelling force applied to the rapidly extending head. Now, there can be no method which can prevent the bi-parietal strain, but the aim of all should be to render the duration of that strain as short as possible. That is what Goodell's method does, and it accomplishes it in a threefold way: 1. When the fingers, hooked into the anus, bring the perineum forward, an amount of force is applied to the head, preventing a too rapid extension. 2. By thus pulling the perineum upward and forward, the opening is applied to the head, in that position, through which it can most readily pass; and 3. By putting the perineum on the stretch the nerves are in a measure paralyzed and the parts relaxed. The above is a rude explanation of the *modus operandi* of Goodell's method, as understood by me. Should any of your readers take exception to it, I beg them to try and put me right where wrong. It is certainly a question worth threshing out.

Although Dr. Rand by this has learned that the method advocated by him is no "lost art," yet he deserves thanks for bringing it forward, if only in the interest of beginners, seeing that it is not mentioned in the text-books.

I am, Sir,
Yours obediently,
R. F. Licorish, M.D.

Bridgetown, Barbados, West Indies, January 3, 1892.

THE NON CONTAGIOUSNESS OF LEPROSY.

To the Editor of the Medical Record.

Sir: In your number of the Record of January 23d appears an account of a paper with the above title read at the County Medical Association by Dr. Bulkley, about which I cannot refrain from saying a word, especially as I feel sure you will print what I have to say, since reading in the same issue your excellent editorial which takes the opposite ground and the one which it seems to me every thoughtful man should take. It is highly gratifying to me that the Record takes the position it has, for in order to accomplish any reform in this direction just such authority is needed. Legislators will look to the leaders in medical thought for the warrant in whatever they undertake, and for this reason it distresses me to witness the stand taken by one of the leaders in dermatological thought. If, however, the Record's account of the paper is full and accurate,

it should not exert any great influence, for it brings forward no new nor strong arguments, presents no facts to show the non-contagiousness, but deals simply with negative evidence and generalities. Leprosy is as unnecessary in this country as it is undesirable. It should be stamped out now as a matter of public economy, and its suppression not delayed until millions will be required where now dollars will do the work. The author apparently admits that the disease is due to a bacillus, and that this bacillus is the same the world over, and that "where it has apparently been absent there probably has been some failure in the technique," and this being so it is not impossible for the disease to arise by contagion, but that the degree of contagiousness "must be extremely small."

Now, no one pretends to claim that the degree of contagiousness is anything else than small. And here is the weak point in Dr. Bulkley's argument. It reminds me of the young servant girl whose mistress learned that while in her last place she had borne a child out of wedlock, and accused her of it. "Yes," pleaded the girl with tears in her eyes, "I did have a baby, but it was a very little one."

The writer is further quoted as saying that contagion could not apply to certain instances which had come under his observation, having seen several cases of leprosy developing in this country in patients who had never come in contact with any leprous person. How can such a statement be made? How many physicians, even, can recognize a leper on the street?

If an unusual weed springs up in Dr. Bulkley's back yard, doesn't he look over his neighbor's fence expecting to find the same variety of plant growing there, and doesn't he know, in case he fails to find what he expects, that an ill-wind has blown the seed of the plant there, or that a bird has dropped it in flying overhead; or, more probably, that when he had the soil fertilized the seed was carried in with the manure, and that the parent plant is to be sought in a corner of the stable-yard.

Now, the reason Dr. Bulkley sits in his study and carries out this line of thought is because he knows that the seed of that particular weed is the same the world over, is always found, and when planted produces the same kind of weed, if it produces anything.

With the number of lepers in New York and vicinity allowed to go about at will one can never say when or where or by whom they are met.

The talk about contagion is utterly futile to my mind. It practically makes no difference whether the disease is contagious "in the ordinary acceptation of the term" or not. If, as Dr. Bulkley admits, there is strong reason to suspect that the bacillus may be introduced into the system by way of food, and that "there is evidence that the disease might, under favorable conditions, be transferred from one person to another," then how, I ask, can he consistently add to his conclusions "there is no necessity for segregation." How does the bacillus get into food if not from a subject of leprosy?

What difference does it make by what name you call it if one person, having the disease, is in a position to transmit it to another, or why is such a person not as much a source of danger as though the one man in five thousand who is going to get the disease from him does it by drinking from the same cup or shaking the leper by the hand. An effort is now being made to secure some legislation in the matter and it is important that no misleading views should go forth. Let us drop the word "contagion" in reference to leprosy and speak of it, as most of us believe it, and some of us think we know it to be, a dangerous but preventable disease.

CHARLES W. ALLEN, M.D.

696 MADISON AVENUE, NEW YORK.

Died from Fasting.—A man who had been fasting some forty days at a museum in this city died from the effects of his effort.

THE DOSE PARALDEHYDE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD for January 2, 1892, J. B. Mattison gives me a reprimand for having in a previous issue put the maximum dose of paraldehyde at one drachm and for having prescribed only fifteen minims at a dose.

I can only reply that my idea of the maximum dose of paraldehyde is not original. As stated in a previous letter, it was borrowed from the last therapeutic productions of the following well-known authorities, viz., S. Ringer (twelfth edition), H. C. Wood (seventh edition), Hobar A Hare, C. Cauquil, J. C. Wilson (Pepper's "System o Medicine"), "Annual of the Universal Medical Sciences, for 1891," "Year-Book Treatment" (Lea Bros.). I also consulted files of the MEDICAL RECORD and *Therapeutic Gazette* for past three years. Nowhere did I find a record of a single dose administered that exceeded 90 minims. Dujardin-Beaumetz states that he gives 30 grains, Desnos says emphatically that "if hypnotic effects are not obtained with from 45 to 60 grains it is useless to push it" (paraldehyde). W. H. Flint reports in the *Therapeutic Gazette*, January, 1891, thirty-five cases in which he had used paraldehyde in doses of 60 to 90 minims. He found that larger doses produced paralysis of the spinal cord, abolished reflex action, and finally arrested respiration. With such facts in mind it is not remarkable that some alarm should be felt over a dose of 10 grammes. Paralysis of the spinal cord and stoppage of respiration are very ugly symptoms in private practice, especially if a comparatively new remedy has been given in doses rather larger than is sanctioned by authors of treatises on therapeutics.

Regarding the prescribed dose, the doctor is mistaken. I prescribed 10 grammes paraldehyde with 20 grammes of sirup (not 30 as incorrectly printed). The tinned sheet-iron teaspoon in use among the poor holds from 6 to 7 grammes. The whole amount prescribed contained at most not to exceed five such teaspoonfuls. My experience with paraldehyde is not extensive, but it has been successful, especially in insomnia of alcoholism. I have, however, never ventured to give more than 4 grains at a dose, and I have in second instances succeeded with two or three grains.

J. NOER, M.D.

SLOUGHTON, WIS., January 20, 1892.

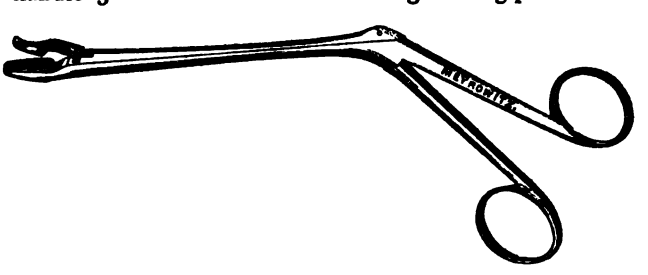
New Instruments.

A NASAL CLIPPER.

BY ROBERT C. MYLES, M.D.,

ASSISTANT SURGEON TO NOSE AND THROAT DEPARTMENT NEW AMSTERDAM EYE AND EAR HOSPITAL; LECTURER IN NOSE AND THROAT DEPARTMENT, NEW YORK POLYCLINIC.

I OFFER a little instrument, which I have named the Nasal Clipper. It is made after the manner of alligator nasal forceps. The shaft is $3\frac{3}{4}$ inches long, and the handle 3 inches. There is a strong cutting-punch for-



ceps at the end, 2 millimetres ($\frac{1}{12}$ inch) wide, by 6 millimetres ($\frac{1}{4}$ inch) long. A complete set is composed of three pairs—two, right and left, each cutting on one side only, and one pair with sharp cutting edges on both sides.

It was designed to remove tissue from the nasal cavities in a definite way, from almost any part, without injuring the adjacent membranes.

In skilful hands it will remove the inferior hypertrophied portion of the middle turbinated body without doing harm to the bone, periosteum, or mucous membrane of the ethmoid. I have found it extremely useful for removal of adhesion of external and internal walls; small fin-like ridges of cartilage, especially along the suture between vomer and perpendicular plate of ethmoid, carious bone, polyp pedicles, and wherever I wanted to excavate a spot on the external wall, leaving a definite circumference.

They were made for me by Mr. E. B. Meyrowitz, New York. After testing, I commend their practical usefulness.

25 West Thirty-sixth Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 6, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	4
Scarlet fever	206	24
Cerebro-spinal meningitis	2	3
Measles	141	16
Diphtheria	111	18
Small-pox	8	1
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Laparotomy on an Infant One Day Old.—Dr. Salmon reports, in the *Gazette des Hôpitaux* of November 12, 1891, a case of congenital umbilical hernia of large size, in which it was evident that treatment by compression would inevitably result in death. It was therefore decided to perform laparotomy, replace the bowel, and draw together the edges of the abdominal defect by sutures. This was done by M. Maunoury on the day after the child's birth, and was eminently successful. A similar case was reported not long ago in the *New York Medical Journal.*

Physicians' Signs.—The fashion, in various cities in Europe, as to the door-plates and signs of physicians is interesting in its variety. In London a large door plate of brass or silver is the thing. In the West End of that city doctors seem to live together, and one may see two or three in the old-fashioned, very neat English-basement houses that are to be found in such great numbers in Harley Street, Brooke Street, George Street, Grosvenor Square, and so on. In Brussels the outside of the house is sometimes decorated *à la* New York, but generally with more taste. There professional men do not hesitate to announce their specialty. In Berlin, where a celebrated man may be one or more flights up, a porcelain plate neatly inscribed with black letters, sometimes with the specialty, and always with the office hours, is in good form. In Paris there is such an absence of signs or door-plates that it is in many instances difficult to know that you are at the right house, so modest or negative are the indications. In Paris, too, distinguished specialists sometimes live very high up, in great apartment houses without elevators. But some of the great Paris physicians live magnificently in town, and have fine country places as well. Along the Quai d'Orsay and the Quai Voltaire are noble houses, now used for business and other purposes, and formerly occupied by Nélaton and Trousseau. But the great men of the present in Paris live on the other side of the Seine. Why they do it, it is hard to say, for everything is very inviting still in the skirts of the Latin Quarter; and in the old Quarter itself, the new boulevards have destroyed all the intricacy and griminess of the region. Philadelphia and Boston outdo New York in the magnitude and splendor of door-plates and office-signs. It is doubtful if they are ever of any particular use, except for those who are looking for a doctor in an emergency, and a very simple indication would be as well as the great sprawling tin, or black marble, or brass affairs that disfigure many a good-looking house.

Cremation in Berlin.—The city of Berlin is about to erect a crematory in the Friedrichsfeld cemetery, where the bodies of unclaimed paupers as well as the remains of the dissecting-room are to be burned. There are about a thousand bodies dissected every year. To popularize the practice of burning the dead, the Berlin Society for Cremation has petitioned the Parliamentary Commission on the Civil Code that the choice between burial and burning be granted hereafter to every German citizen.

The Association of Ulcer of the Stomach and Cardiac Disturbances.—At a recent meeting of the Medical Society of London, Dr. Ord read a paper in which he drew attention to the not infrequent association of gastric ulcer with cardiac disturbance. In a large number of patients with well-marked symptoms of gastric ulceration, he had observed an extension upward on the left side of the sternum of the area of cardiac dulness, a shifting of the apex-beat upward and to the left, friction sounds, mitral systolic murmurs transmitted to the axilla, and accentuation of the second sound over the pulmonic area. The patients were, it is true, anæmic, but anæmic murmurs are usually more fugitive, and in simple anæmia, too, the pulmonary second sound is not accentuated. The speaker thought it possible, however, that, as a part of the nerve disturbances of anæmia, there might be tension in the pulmonary artery, thus diminishing the circulation in the lung (which would then shrink and so occasion increase of the area of cardiac dulness), and increasing pressure in the artery. He suggested that the gastric ulceration and the cardiac changes might be due to a common factor, and that this might be some disturbance of the pneumogastric nerve. He pointed out that ulcers of the stomach more nearly resembled in their nature ulcers arising from other nerve disturbances, such as herpes, than those caused by embolism or thrombosis of an artery.

Ununited Fractures in Children.—A meeting of the Medical and Chirurgical Society of London, in December last, was devoted to discussing the subject of "Ununited Fractures of the Long Bones in Children." Mr. D'Arcy Power introduced the discussion by a paper in which he gave an analysis of sixty-three cases. He remarked that the subject had been almost entirely neglected until the publication of Sir James Paget's paper in his work entitled "Studies of Old Case Books." Mr. Power said the statistics he had collected entirely bore out Sir James Paget's conclusions. The results of treatment were most unsatisfactory. Out of the 63 cases, bony union was obtained in only 6, and in 7 cases the patient was relieved, but in 36 cases no improvement whatever ensued on treatment. The author believed that ununited fractures were becoming more common, at least in England, though he pointed out that in France non-union was very rare—not in children only, but in adults. He remarked that the ease with which plaster-of-Paris could be applied was one of the dangers in using it. If the child were carefully watched, nothing could be better; but in plaster there was great liability of a child's leg shrinking and movement could then occur inside the case.

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Original Lectures.

PRESENT PROBLEMS IN EVOLUTION AND HEREDITY.

THE CARTWRIGHT LECTURES FOR 1892.

BY HENRY FAIRFIELD OSBORN, Sc.D.,

DA COSTA PROFESSOR OF BIOLOGY IN COLUMBIA COLLEGE, NEW YORK.

IN the past decade of practical research and speculation in biology two subjects have outstripped in interest and importance the rapid progress all along the line. These are, first, the life history of the reproductive cell from its infancy in the ovum onward, and second, the associated problem of heredity, which passes insensibly from the field of direct observation into the region of pure speculation.

As regards the cell it was generally believed that the nucleus was an arcanum into the mysteries of which we could not far penetrate; but this belief has long been dispelled by the eager specialist, and it is no exaggeration to say that we now know more about the meaning of the nucleus than we did about the entire cell a few years ago. At that time the current solution of the heredity problem was a purely formal one; it came to the main barrier, namely, the relation of heredity and evolution to the reproductive cells, and leapt over it by the postulate of Pangenesis. The germ-cell studies of Balfour, Van Beneden, the Hertwig brothers, Weismann, Boveri, and others, have gradually led us to hope that we shall some day trace the connection between the intricate metamorphoses in these cells and the external phenomena of heredity, and more than this, to realize that the heredity theory of the future must rest upon a far more exact knowledge than we enjoy at present of the history of the reproductive cell both in itself and in the influence which the surrounding body cells have upon it.

These advances affect the problem of life and protoplasm, whether studied by the physician, the anthropologist, or the zoölogist, thus concentrating into one focus opinions which have been formed by the observation of widely different classes of facts. As each class of facts bears to the observer a different aspect and gives him a personal bias, the discussion is by no means irenical, and it is our privilege to live through one of those heated periods which mark the course of every revolution in the world of ideas. Such a crisis was brought about by the publication of the theory of Darwin, in 1858, and after subsiding, has again been roused by Weismann's theory of heredity, published in 1883.

This is the situation I have ventured to present to you as Cartwright lecturer, not, of course, without introducing some conclusions of my own, which have been derived from vertebrate palæontology, but which I shall direct mainly upon human evolution.

So far as theories need come before us now, remember that Lamarck (1792) attributed evolution to the hereditary transmission to offspring of changes (acquired variations) caused by environment and habit in the parent. Darwin's latest view was that evolution is due to the Natural Selection of such congenital variations as favored survival, supplemented by the transmission of acquired variations. Weismann denies the transmission of acquired variations, or characters, entirely, and attributes evolution solely to the natural selection of the individuals which bear the most favorable variations of the germ or reproductive cells. We must, therefore, clearly distinguish between "congenital variations" which are part of our inheritance and "acquired variations" which are due to our life habits; the question is, Are the latter transmitted?

At the outset I would emphasize the extreme complexity of evolution by a few words upon Variation, or in terms of medical science, upon anomalies.

When we speak of a part as "anomalous" we mean that it varies at birth from the ordinary or typical form—it may be minute, as the small slip of a tendon, or large, as the addition of a complete vertebra to the spinal column. Wood has found that in the muscular system alone there are nine anomalies in the average individual. It is clear that the evolution of a new type, so far as the muscular system is concerned, must consist in the *accumulation of anomalies in a certain definite direction by heredity*. Thus the anomalous condition of one generation may become the typical condition of a very much later generation, and we observe the paradox of a typical structure becoming an anomaly and an anomalous structure becoming typical; for example, the supracondylar foramen of the humerus was once typical, it is now anomalous; the retardation in development of the wisdom tooth was once anomalous, it is now typical.

The same principle applies to races which are in different stages of evolution; an anomaly in the white, such as the early closure of the cranial sutures, is normal in the black. Now the deductions of the Weismann school of evolutionists seem to be founded upon the principle "*de minimis non curat lex;*" that we need only regard such major variations as can, *ex hypothesi*, weigh in the scale of survival. Against this I urge that we must regard the evolution of particular structures, the components of larger organs, the separate muscles and bones for example, for the very reason that while in some cases they play a most humble *rôle* in our economy we can prove beyond a doubt that they are in course of evolution. Minor variations in foot structure, which are possibly of vital importance to a quadruped whose very existence may depend upon speed, sink into obscurity as factors in the survival of the modern American.

The evolution of man in the most unimportant details of his structure promises, therefore, to afford a far more crucial test of the Lamarckian *vs.* the pure Natural Selection theory, than in the domain of his higher faculties, for the reason that Selection may operate upon variations in mind, while it taxes our credulity to believe it can operate upon variations in muscle and bone. This is my ground for selecting the skeleton and muscles for the subject of the introductory lecture. Nevertheless, let us review variation in all its forms in human anatomy before forming an opinion. Let us remember, too, that congenital and acquired variations are universal as necessities of birth and life; they are exhibited in the body as a whole—in its proportions, in the components of each limb, finally in the separate parts of each component, as in the divisions of a complex muscle. Thus the possibilities of transformism are everywhere. What is the nature and origin of congenital variations? Their causes? Do they follow certain directions? Do they spring from acquired variations by heredity? These are some of the questions which are still unsettled.

But striking as are the anomalies from type, the repetitions of type as exhibited in atavism and normal inheritance are still more so, and equally difficult to explain. Therefore our theory must provide both for the observed

laws of repetition of ancestral form and the laws of variation from ancestral form, as the pasture-land of evolution. Add to these, that for a period in each generation this entire legislation of nature is compressed into the tiny nucleus of the fertilized ovum, and the whole problem rises before us in the apparent impregnability which only intensifies our ardor of research.

LECTURE I.

The Contemporary Evolution of Man.

"La vraie science et le vraie étude de l'homme, c'est l'homme."—Charron.

The anthropologists and anatomists have enjoyed a certain monopoly of *Homo sapiens*, while the biologists have directed their energies mainly upon the lower creation. But under the inspiring influences of the Darwinian theory these originally distinct branches have converged, and as man takes his place in the zoölogical system, comparative anatomy is recognized as the infallible key to human anatomy.

For our present purpose we must suppress our sentiment at the outset and state plainly that the only interpretation of our bodily structure lies in the theory of our descent from some early member of the primates, such as may have given rise also to the living Anthropoidea. This is also the only tenable teleological view, for many of our inherited organs are at present non-purposive, in some cases even harmful, as the appendix vermiformis.

From the typical mammalian stand-point man is a degenerate animal; his senses are inferior in acuteness; his upright position, while giving him a superior aspect, entails many disadvantages, as recently enumerated by Clevenger,[1] for the body is not fully adapted to it; his feet are not superior to those of many lower Eocene plantigrades; his teeth are mechanically far inferior to those of the domestic cat. In fact, if an unbiassed comparative anatomist should reach this planet from Mars he could only pass favorable comment upon the perfection of the hand and the massive brain! Holding these trumps, man has been and now is discarding many useful structures. I refer especially to civilized man, who is more prodigal with his inheritance than the savage. By virtue of the hand and the brain he is, nevertheless, the best adapted and most cosmopolitan vertebrate. The man of Néanderthal or Spy, with retreating forehead and brain of small cubic capacity[2] was limited both in his ideas and his powers of travel, yet he was our superior in some points of osteological structure. But the period of Néanderthal was recent compared with that in which some of our rudimentary organs were serviceable, such as the vermiform appendix or the panniculus carnosus[3] muscle. These rudiments, in turn, are neogenetic when we consider the age of the two antique sense organs in the optic thalamus, the remnants of the median or pineal eye and the pituitary body, both of which were undoubtedly present, and probably useful, in the recently discovered Silurian fishes!

I mention these vestiges of some of the first steps in creation to illustrate the extraordinary conservative power of heredity (which is even more forcibly seen in our embryological development), partly also to show how widely our organs differ in age. Galton has compared the human frame to a new building built up of fragments of old ones; extend this back into the ages and the comparison is complete.

Development, Balance, Degeneration.—It is probable that none of our organs are absolutely static and that the apparent halt in the development of some is merely relative, as where a fast train passes a slow one. The numerous cases of arrested evolution in nature are always connected with fixity of environment, an exceptional condition with man, and we have ample evidence that some organs are changing more rapidly than others.

Adaptation to our changing circumstances is mainly effected by the simultaneous development and degeneration of organs which lie side by side, as in the muscles of the foot or hand; in terms of physiology, we observe the hypertrophy of adaptive organs and atrophy of inadaptive or useless organs. This compensating readjustment, whereby the sum of nutrition to any region remains the same during redistribution to its parts, may be called metatrophism. It is the gerrymander principle in nature.

In practical investigation it is very difficult in many cases to determine whether an organ is actually developing or degenerating at the present time; although its variability, or tendency to present individual anomalies, indicates that some change is in progress. I may instance the highly variable peroneus tertius muscle (Wood). The rise or fall of organs is so constantly associated with their degree of utility, that in each case the doubt can be removed by a careful analysis of the greater or less actual service rendered by the part in question. Apart from the question of causation, it is a fixed principle that a part degenerating by disuse in each individual will also be found degenerating in the race.

Degeneration is an extremely slow process; both in the muscular and skeletal systems we find organs so far on the down grade that they are mere pensioners of the body, drawing pay (*i.e.*, nutrition) for past honorable services without performing any corresponding work—the plantaris and palmaris muscles for example. Of course an organ without a function is a disadvantage, so that the final duty of degeneration is to restore the balance between structure and function, by placing it *hors de combat* entirely. One symptom of decline is variability, in which the organ seems to be demonstrating its own uselessness by occasional absence. As Humphrey remarks: "The muscles which are most frequently absent by anomalies are in fact those which can disappear with least inconvenience, either because they can be replaced by others or because they play an altogether secondary *rôle* in the organism." The stages downward are gradual; the rudiment becomes variable as an adult structure, then as a fœtal structure; the percentage of absence slowly increases until it reappears only as a reversion; finally the part ceases even to revert and all record of it is lost. This long struggle of the destructive power of degeneration, which you see is essentially an adaptive factor, against the protective power of heredity is the most striking feature of the law of Repetition. (See Galton's similar principle of Regression in Anthropology).

A careful study of our developing, degenerating, rudimental, and reversional organs amply demonstrates that man is now in a state of evolution hardly less rapid, I believe, than that which has produced the modern horse from his small five-toed ancestor. As far as I can see, the only reason why our evolution should be slower than that of the ancient horse is the frequent intermingling of races, which always tends to resolve types which have specialized, into more generalized types. Wherever the human species has been isolated for a long period of time, divergence of character is very marked, as will be seen in some of the races I refer to below.

To lighten the long catalogue of facts, gathered from many authors, I shall frequently allude to *habit*, but will ask you to consider it for the time as associational rather than causal. Pouchet says: "Man is a creature of the writing-table and could only have been invented in a country in which covering of the feet is universal;" he should have added the "eating-table." From the average man our fashions and occupations demand the play of the forearm and hand, the independent and complex movements of the thumb and finger; the outward turning

[1] Disadvantages of the Upright Position, article in American Naturalist, 1884, p. 1.

[2] The remarkable skulls and skeletons which have recently been discovered at Spy remove all doubts as to the normal, *i.e.*, racial character of the famous Néanderthal skull, which were entertained by Quatrefages and others. See Fraipont and Lohest, Archives de Biologie, 1887, p. 697.

[3] This is an epidermal or twitching muscle in the quadrupeds.

of the foot in walking. These are some of the most conspicuous features of modern habit.

The Skeletal Variations.[1]—In a most valuable essay by Arthur Thomson upon "The Influence of Posture on the Form of the Articular Surfaces of the Tibia and Astragalus in the Different Races of Man and the Higher Apes,"[2] we find clearly brought out the distinction between congenital variations and those which may be acquired by prolonged habits of life. It is perfectly clear from this investigation that certain racial characters, such as "platycnemism" or flattened tibia, which have been considered of great importance in anthropology, may prove to be merely individual modifications due to certain local and temporary customs. Thomson's conclusions are that the tibia is the most variable in length and form of any long bone in the body. Platycnemia is most frequent in tribes living by hunting and climbing in hilly countries, and is associated with the strong development of the tibialis posticus. The great convexity of the external condyloid surface of the tibia in savage races appears to be developed during life by the frequent or habitual knee flexure in squatting; it is less developed where the tibia has a backward curve and is independent of platycnemia. Another product of the squatting habit is a facet formed upon the neck of the astragalus by the tibia. This is very rare in Europeans; it is found in the gorilla and orang, but rarely in the chimpanzee. We must therefore be on our guard to distinguish between congenital or hereditary skeletal characters which are fundamental, and "acquired" skeletal variations which may not be hereditary. The latter are of questionable value in tracing lines of descent, if not actually misleading; on the other hand, the teeth, as shown by Cope in his essay on "Lemurine reversion in human dentition," have distinct racial patterns and are reliable indices of consanguinity because their form cannot be modified during life.

The main features of present evolution in the backbone are the elaboration of the spines of the cervical vertebræ, the increase of the spinal curvatures, the shortening of the centra of the lumbar vertebræ and shifting of the pelvis upward, whereby a lumbar vertebra is added to the sacrum and subtracted from the dorso-lumbar series.

Cunningham[3] has found that the division of the neural spines in the upper cervical vertebræ distinguishes the higher races from the lower. The spine of the axis is always bifid, but the spines of the cervicals three, four, and five, are also, as a rule, bifid in the European, while they are single in the lower races. The same author shows[4] that the bodies of the lumbar vertebræ are altering, by widening and shortening, to form a firmer pillar of support, with a compensating increase in the length of the intervertebral cartilages. In the child the vertebræ present more nearly their primitive elongate compressed form. With this is associated an increase of the forward lumbar curvature (Turner);[5] the primitive (*i.e.*, Simian) curve was backward; even in the negroes the collective measurement of the posterior faces of the five lumbars is greater than the anterior, in the proportion of 106 to 100; whereas in the white the collective anterior faces exceed the posterior in nearly the same proportion—100 to 96.

The lower region of the back is also the seat of one of the most interesting and important of the changes in the body, namely, the correlated evolution of the inferior ribs, the lumbar vertebræ, and the pelvis—to which embryology, adult and comparative anatomy, and reversion all contribute their quota of proof. In most of the anthropoid apes, and therefore presumably in the pro-anthropos, there were thirteen complete ribs and four lumbar vertebræ, while man has twelve ribs and five lumbars. Thus we may consider the superior lumbar of adult man as a ribless dorsal; not so in the human embryo, however, for Rosenberg[1] has found a cartilaginous rudiment of the missing 13th rib upon the so-called first lumbar. Atavism contributes an earlier chapter in the history of this region, for Birmingham[2] reports, out of fifty cases examined in one year, two in which there were six lumbars, and in each the 13th rib was well developed; this is an interesting example of "correlated reversion," for as the pelvis shifted downward to its ancestral position upon the 26th vertebra, the 13th rib was also restored. The other ribs are in what the ancients styled a "state of flux;" our 8th rib has been so recently floated from the sternum that, and according to Cunningham,[3] it reverts as a true rib in twenty cases out of a hundred, showing a decided preference for the right side. Regarding also the occasional fusion of the 5th lumbar with the sacrum and the unstable condition of the 12th rib, which is, by variation rudimentary or absent, Rosenberg makes bold to predict that in the man of the future the pelvis will shift another step upward to the 24th vertebræ, and we shall then lose our 12th rib. The upright position, and consequent transfer of the weight of the abdominal viscera to the pelvis, may be considered the habit associated with this reduction of the chest; at all events, in the evolution of quadrupeds there is a constant relation of increase between the size of the posterior ribs and the weight of the viscera, until the rib-bearing vertebræ rise to twenty and the lumbars are reduced to three.[4] It would be interesting to note the condition of the ribs in some of the large-bellied tribes of Africans in reference to this point.

The coccyx has naturally been the centre of active search for the missing flexible caudals. As is well known, the adult coccyx contains but from three to five centres, while the embryo contains from five to six. Dr. Max Bartels has made "Die geschwänzten Menschen" the subject of an exhaustive memoir upon cases of the reversion of the tail, while Testut records all the primitive tail muscles in various stages of reversion. Watson reports that the curvatores coccygia (-depressores caudæ) only occur in 1 in 1,000 cases.

This suggests a moment's digression to consider the different phases of reversion. The 13th rib recurs by what Gegenbaur,[5] calls "neogenetic reversion," for it is simply the anomalous adult development of an embryonic rudiment. Under neogenetic reversions many authors also include cases of the "arrested development," or persistence of an embryonic condition to adult life, such as the disunited odontoid process of the axis vertebra, which happens to repeat a very remote ancestral condition. I think such cases may illustrate a reversional tendency, although many cases of arrested development, such as anencephaly, have no atavistic significance whatever.[6] More rare and far more difficult to explain are the "palæogenetic reversions," in which the anomaly, such as the supracondylar foramen, reverts to an atavus so remote that the rudiment is not even represented in the embryo.

The features of skull development are primarily the increase of the cranium and the late closure of the cranial sutures, in contrast with the more complete and earlier closure of the facial sutures.

So far as I can gather this seems to be another region where the white and colored races present reversed conditions; the early closure and arrest of brain development in the negroes is well known; the later closure among the whites is undoubtedly an adaptation to brain growth. In his valuable statistics upon the Cambridge students, Galton says: "Although it is pretty well ascertained that in the masses of population the

[1] For recent general articles, see Blanchard, L'Atavisme chez l'Homme, Rev. de Anthrop., 1885, p. 425; and Baker, The Ascent of Man, Proceedings of the American Association for the Advancement of Science, 1890.
[2] Journal of Anatomy and Physiology, 1889, p. 617.
[3] Ibid., 1886, p. 636. [4] Ibid., 1890, p. 117. [5] Ibid., 1887, p. 473.

[1] Morph. Jahrb., 1876.
[2] Journal of Anatomy and Physiology, 1891, p. 526.
[3] Ibid., 1890, p. 127.
[4] In the elephant and rhinoceros.
[5] Morph. Jahrb., Bd. VI., p 585.
[6] Anencephaly, it should be said, is frequently associated with numerous reversions.

brain ceases to grow after the age of nineteen, or even earlier, it is by no means the case with university students. In high honor men head growth is precocious, their heads predominate over the average more at nineteen than at twenty five."

Many of the cases of arrested closure of facial sutures are reversional, as they correspond with the adult condition of other races, such as the divided malar, or os Japonicum. The human premaxillary, a discovery with which Goethe's name will always be associated, is sometimes partially, more rarely wholly, isolated; it is late to unite with the maxillary in the Australians, and has been reported entirely separate in a New Caledonian child (Deslongchamps) and in two Greenlanders (Carus). The orbito maxillary frontal suture, cited by Turner as a reversion to the pithecoid condition, is believed by Thomson,[1] after the examination of one thousand and thirty-seven skulls, to be merely an accidental variation, without any deeper significance. The development of the temporal bone from two centres, observed by Meckel, Gruber, and many others, is considered by Albrecht a reversion to the separate quadrate of the sauro-mammalia. This I think is in the highest degree improbable (see "Limits of Reversion"). The open cranial and closed facial sutures are apparently associated with our increasing brain action and decreasing jaw action; in one case the growth is prolonged and the sutures are left open, in the other, the growth is arrested and the sutures are closed.

Is the lower jaw developing or degenerating? This question has recently been the subject of a spirited controversy between Mr. W. Platt Ball,[2] representing the Weismann school, and Mr. F. Howard Collins,[3] supporting Herbert Spencer's view that a diminishing jaw is one of the features of our evolution which can only be explained by disuse. Mr. Collins finds that, relatively to the skull, the mass of the recent English jaw is one-ninth less than that of the ancient British and, roughly speaking, half that of the Australian. He appears to establish the view that the jaw is diminishing.

Closely connected with this is the evolution of the teeth; how are they tending?

Flower[4] has shown, as regards the length of our molar series, that we, together with the ancient British and Egyptians, belong to a small-toothed or "microdont" race; the Chinese, Indians (North American), Malayans, and Negroes in part, are intermediate or "mesodont," while the Andamanese, Melanasians, Australians, and Tasmanians are "macrodont." While undersize marks the molars as a whole, the wisdom tooth is certainly in process of elimination; it has the symptoms of decline; it is very variable in size, form, and in the date of its appearance, is often misplaced, and is not uncommonly quite rudimentary (Tomes).[5] Here is another instance where the knife-and-forkless races reverse our degeneracy, for in them not only is the last normal molar (m. 3) large and cut long before the traditional years of discretion, but in the first two lower molars are found two intermediate cusps (Tomes)[6] which are variable or absent in us (Abbott); moreover, in the macrodont races a surplus molar[7] (m. 4) is sometimes developed. Mummery reports nine such cases among three hundred and twenty-eight West Africans (Ashantis). As an instance of associated habit I may here mention that Dr. Lumholtz, the Australian explorer, informs me that in adult natives the teeth are worn to the gum; in the absence of tools they are used in every occupation, from eviscerating a snake to cutting a root. A tour of inspection through any large collection of skulls brings out the contrast between the sound and hard-worn molars of the savage, and the decayed and little-worn molars of the white.

[1] Journal of Anatomy and Physiology, 1890, p. 348.
[2] Are the Effects of Use and Disuse Inherited? Nature Series, 1890. [3] The Lower Jaw in Civilized Races, 1891.
[4] Journal of the Anthropological Institute, 1880.
[5] Dental Anatomy, p. 416. [6] Op. cit., p. 416.
[7] This tooth has been found in several other macrodont tribes (Australians, Tasmanians, Neo-Caledonians), Fontan.

Upon the descent theory the reduction of teeth in the progenitor of man began as far back as the Eocene period, for not later than that remote age do we find the full complement of three incisors and four premolars in each jaw; now there are but two remaining of each. Baume, a high authority, believes he has discovered eleven cases of a rudimental reversion of one of these lost premolars[1] not cutting the jaw. Not infrequently both these missing teeth occur by reversion! It is difficult to conceive of reversion to such a remote period, yet it is supported by other evidence. An embryonic third incisor has, I believe, been discovered. As long ago as 1863, Sedgwick[2] recorded a case of six upper and lower incisors in both jaws, and appearing in both the milk and permanent dentitions; this anomaly was inherited from a grandparent, a striking instance of hereditary reversional tendency. We might consider that these cases of supernumerary teeth belonged in the same category as polydactylism, or additional fingers, which are not atavistic, but for the fact that they do not exceed the typical ancestral number, whereas the fingers do.

We owe to Windle[3] a careful review of the incisor reversions, in which he shows that the lost incisors reappear more frequently in the upper than the lower jaw (coinciding with the fact that the lower teeth were the first to disappear in the race); he considers that the lost tooth was the one originally next the canine, and concludes by adding our present upper outer incisor to the long list of degenerating organs.[4] He supports this statement by measurements and by citing cases in which it has been found absent. Yet the reduction of the jaws is apparently outstripping that of the teeth, if we can judge from the frequent practice among American dentists of relieving the crowded jaw by extraction.

We now turn to the arches and limbs. Flower has pointed out that the base of the scapula is widening in the higher races, so that the "index," or ratio of length to breadth, is quite distinctive. Gegenbaur associates this with the development of the scapulo-humeral muscles and the greater play of the humerus as a prehensile organ.

In general, the arm increases in interest as we descend toward the hand, both in the skeleton and musculature, because here we meet with the first glimpses of facts which enable us to form some estimate of the rate of human evolution. The well-known humeral torsion (connected with increased rotation) ascends from 152° in the polished stone age to 164° in the modern European. The intercondylar foramen, or perforation of the olecranon fossa, is exceptionally well recorded;[5] it is found in thirty per cent. of skeletons of the reindeer period; in the dolmen period it fell to twenty-four per cent.; in Parisian cemeteries between the fourth and tenth centuries it is found in 5.5 per cent.; it has now fallen to 3.5 per cent. The condylar foramen, occasionally forming a complete bridge of bone above the inner condyle and transmitting the median nerve and brachial artery, is known as the "entepicondylar" foramen in comparative anatomy, and is one of the most ancient characters of the mammalia; it reverts palæogenetically in one per cent. of recent skeletons, but much more frequently in inferior races (Lamb). In the wrist-bone is sometimes developed another extremely old structure—the os centrale. Gruber[6] reported its recurrence at .25 per cent. approximately. This is a case of neogenetic reversion, for Leboucq[7] shows that there is a distinct centrale in every human carpus in the first part of the second month, which normally fuses with the scaphoid by the middle of the third month.

[1] Odontologische Forschungen, p. 268. This rudiment is found between the first and second normal premolars.
[2] British and Foreign Medico-Chirurgical Review, 1863.
[3] Journal of Anatomy and Physiology, 1887, p. 85.
[4] Baume believes that the missing incisor is the primitive median one, while Turner believes it is the second. The fossil record supports Windle.
[5] See Blanchard, op cit., p. 450.
[6] Virchow's Archiv, 1885, p. 353.
[7] Ann. de la Soc. de Méd. de Gand, 1884.

The divergence of the female from the male pelvis is an important feature of our progressive development; it is proved by the fact that, as we descend among the lower races it becomes increasingly difficult to distinguish the female skeleton from the male, for the pelves of the two sexes are nearly uniform. Here it seems to me is a most interesting problem for investigation. Arbuthnot Lane's[1] views of the mechanical causes of this divergence, which are strongly Lamarckian, may be weighed with the theory of survival of the fittest, for a large female pelvis is perhaps the best example that can be adduced of a skeletal variation which would be preserved by natural selection, for reasons which are self-evident. The third trochanter of the femur is believed by Professor Dwight,[2] of the Harvard Medical School, to be a true reversion (one per cent.) in our race and not an acquired variation, as it is very frequently found among the Sioux (fifty per cent.), Laplanders, sixty-four per cent., and Swedes, thirty-seven per cent.; like the condylar foramen it is an ancient mammalian character.

The foot is full of interest in its association of degeneration and development with our present habits of walking; the great toe is increasing and the little toe diminishing, causing the oblique slope from within outward which is in wide contrast with the square toes in the infant or in the lower races. In many races the second toe is as long as the first, and the feet are carried parallel instead of the large toe turning out. If anyone will analyze his sensations in walking, even in his shoes, he will be conscious that the great toe is taking active part in progression, while the little toe is passive and insensitive. We are not surprised, therefore, to learn from Pfitzner[3] that we are losing a phalanx, that in many human skeletons (41.5 per cent. in women and thirty-one per cent. in men) the two end joints of the little toe are fused. The fusion occurs not only in adults, but between birth and the seventh year, and in embryos of between the fifth and seventh month. The author does not attribute this to the mechanical pressure of tight shoes because it is found in the poorer classes. He considers it the first act of a total degeneration of the fifth toe.

Variations in the Muscles.—The evolution of the muscles of the foot looks in the same direction.

As you know, the large toe in many of the apes is set at an angle to the foot and is used in climbing. It is still employed in a variety of occupations by different races. According to Tremlett,[4] the celebrated great toe of the Annamese, which normally projects at a wide angle from the foot, is contemptuously mentioned in Chinese annals of 2285 B.C., the race being then described as the "cross-toes." The long flexor of the hallux is apparently degenerating, showing a tendency to fuse with the flexor communis; the abductors and adductors of this toe are also degenerating, the latter being proportionately large in children (Ruge). The little toe exhibits only by reversion its primitive share of the flexor brevis (Gegenbaur); more frequently it varies in the direction of its future decline by losing its flexor brevis tendon entirely. Two atavistic muscles, the abductor metatarsi quinti[5] (always present in the apes), and the peroneus parvus (Bischoff), also point to the former mobility of the outer side of the foot. In general the bones of the foot are developing on the inner and degenerating on the outer side, with loss of the lateral movements of the hallux, and of all independent movements in the little toe. The associated habit is that the main axis of pressure and strain now connects the heel and great toe, leaving the outer side of the foot comparatively functionless.

The variations in the muscular system mark off more clearly the regions of contemporary evolution, and therefore are even more instructive than those in the skeleton. Muscular anomalies have, however, never been adequately analyzed. Even the remarkable memoir of M. Testut, "Sur les Anomalies musculaires," is defective in not clearly distinguishing between variations which look to the future, those which revert to the past, and those which are fortuitous, for the author is strongly inclined to refer all anomalies to reversion.

The law of muscular evolution is specialization by the successive separation of new independent contractile bands from the large fundamental muscles, while the law of skeletal evolution is reduction of primitive parts and the specialization of articular surfaces. The number of muscles in the primates as a whole has, therefore, been steadily increasing, while the number of bones has been diminishing. In man the number of muscles is probably increasing in the regions of the lower arm, and diminishing in every other region. The analysis is rendered very difficult by the fact that some muscles (*e.g.*, those connecting the shoulder with the neck and back) revert to a former condition of greater specialization when they were employed in swinging the body by the arms, and in quadrupedal locomotion; while other muscles (*e.g.*, those connecting the forearm and fingers) revert to a former simpler arrangement when the hand was mainly a grasping organ, and the thumb was not opposable.

As in the skeleton, we find that muscular anomalies include, 1, palæogenetic reversions, or complete restorations of lost muscles; 2, neogenetic reversions, or revivals of former types in the relations of existing muscles; 3, progressive variations, which either by degeneration or specialization point to future types; 4, fortuitous variations, which cannot be referred to either of the above.

Duval observes that the flexor longus pollicis repeats in reversion all the stages of its evolution between man and the apes, in which it is a division of the flexor profundus. Gruber and others have even observed the absence of the thumb tendon. This is true of all the new muscles. Of this Testut writes: "Ne dirait-on pas, en le voyant s'éloigner si souvent de son état normal, que la nature voudrait le ramener à sa disposition primitive, luttant ainsi sans cesse contre l'adaptation, et ne lui abandonnant qu' à regret l'une de ses plus belles conquêtes."

Speaking of the hand, Baker[1] says: "On comparing the human hand with that of the anthropoids, it may be seen that this efficiency is produced in two ways—first, increasing the mobility and variety of action of the thumb and fingers; second, reducing the muscles used mainly to assist prolonged grasp, they being no longer necessary to an organ for delicate work requiring constant readjustment." You have noticed the recent discovery that the grasping power of infants is so great that the reflex contraction of the fingers upon a slender cross bar sustains their weight; this power and the decided inward rotation of the sole of the foot and mobility of the toes are persistent adaptations. Our grasping muscle, the palmaris longus, is highly variable and often absent; like the plantaris of the calf, it has been replaced by other muscles, and its insertion has been withdrawn from the metapodium to the palmar fascia. In negroes we frequently find the palmaris reverting to its former function of flexing the fingers by insertion in the metacarpals.

The rise of muscular specialization by degeneration is beautifully shown in the extensor indicis, which, while normally supplying the index only, reverts by sending its former slips to the thumb, middle, and even to the ring finger. Testut[2] believes that the extension power of the middle and ring fingers has declined, as the cases of reversion point to greater mobility; the extensor minimi digiti is distinct and highly variable (Wood), often sending a slip to the ring finger.

The entire flexor group of the hand, excepting the palmaris, is apparently specializing. The demonstration by Windle[3] and Bland Sutton, that the origin of the flexors and extensors is shifting downward from their

[1] Journal of Anatomy and Physiology, 1888, p. 214.
[2] Ibid., 1890, p. 61.
[3] See Humboldt, 1890; also Nature, 1890, p. 301.
[4] Journal of the Anthropological Institute, 1880, p. 461.
[5] Darwin: Descent of Man, p. 42.

[1] Op. cit., p. 299. [2] Op. cit., p. 564.
[3] Journal of Anatomy and Physiology, 1890, p. 72.

original position, is evidence of an adaptation to the short special contractions required of them.

The abductor pollicis[1] is also progressive and variable (Wood); the reduplication of its inferior tendon, which is sometimes provided with a distinct muscle, apparently points to the birth of a second abductor. The opponens of the thumb is well established and constant. Variability seems to characterize both the developing and degenerating muscles; the latter are apt to be absent; it is rare that an important muscle, such as the extensor indicis, is absent, but such cases are reported.

It is interesting to note that the lost muscles of the body are almost exclusively in the trunk or shoulder, and pelvic arches, and not in the limbs. It will be remembered that the human shoulder-joint is exceptionally rigid, whereas in the quadrupedal state it was a factor in progression. Some of the muscular reversions in this quadrupedal region are the levator claviculæ (1 to 60, Macalister), trachelo-clavicularis, scalenus intermedius, acromio-basilaris (Champneys), transversus nuchæ (Gegenbaur). Apparently associated with the former swinging of the body by the fore-limb in the arboreal life are the atavistic coraco-brachialis-brevis (Testut), the epitrochleo-dorsalis (Testut), and pectoralis tertius (Testut).[2]

Centres of Variability.—As the literature is so readily accessible I will not multiply illustrations of the innumerable congenital variations related to human evolution. I call attention to several important inductions. First, there are several centres in which both the skeletal and muscular systems are highly variable. Second, that the most conspicuous variations, and therefore the most frequently recorded, are reversions. Third, that structure lags far behind function in evolution.

The conclusions of Wood and Testut[3] are that variability is independent of age or sex, of general muscularity, and of abnormal mental development. Wood found 981 anomalies in 102 subjects; of these, 623 were developed upon both sides of the body, while 358 were unilateral. Of still greater interest are the statistics collected by Wood between 1867–68 in the dissecting-room of King's College, upon 36 subjects (18 of each sex). These show that there are more anomalies in the limbs than in the trunk; that anomalies are rare in the pelvis; that there were 292 anomalies in the anterior limbs to 119 in the posterior; that in both limbs the anomalies increase toward the distal segments, culminating in the muscles of the thumb, where they rise to ninety per cent. (mainly flex. long. pollicis, and abd. long. pollicis). These facts seem to prove conclusively that while variation is universal it rises to a maximum in the centres where human evolution is most rapid; here are Herbert Spencer's conditions of unstable equilibrium. This has a direct bearing, as I shall show, upon our theory of heredity.

Fortuitous Congenital Variations.—I have thus far considered only those variations which apparently have a definite relation to the course of human evolution. There is an entirely different class of congenital variations which may be described as fortuitous or indefinite because they do not occur in any fixed percentage of cases; they are liable to take any direction; they cannot be considered reversional because they are not found in the hypothetical atavus, and there is not sufficient evidence to cause us to consider them as incipient features of our future structure.

Some may not be truly congenital (*i.e.*, springing direct from the germ-cells) but may be merely deviations from the normal course of development. I may instance the variations in the carpus recorded by Turner[4] in which the trapezium and scaphoid unite, or the trapezoid and semilunar divide, or the astragalus and navicular unite (Anderson).

The best examples of fortuitous congenital variations are seen in supernumerary fingers and vertebræ. The eighth cervical vertebra, bearing a rudimentary rib,[1] is not a reversion because the most remote ancestors of man have but seven cervicals. In cases where a rib is developed upon the seventh cervical, however, the reversion theory is perhaps applicable because rib bearing cervicals are relatively less remote. The same distinction applies to polydactylism. How absurd it is to consider a sixth finger atavistic, when we remember that even our Permian ancestors had but five fingers.

We cannot, however, class as purely fortuitous a variation which occurs in a definite percentage of cases presenting twenty-four different varieties, but occurring in the same region. Such is the much-discussed[2] musculus sternalis, a muscle extending vertically over the origin of the pectoralis from the region of the sterno-mastoid to that of the obliquus externus. Testut lightly applies his universal reversion theory, and as this muscle is not found in any mammal considers it a regression to the reptilian presternal (Ophidia)! Turner also considered it as reversional in connection with the panniculus carnosus, the old twitching muscle of the skin, which plays so many freaks of reversion in the scalp and neck; this view is negatived by the fact that this muscle is innervated by the anterior thoracic (Cunningham, Shepherd) which would connect it with the pectoral system, or by the intercostal nerves (Bardeleben). Although the high percentage of recurrence in the sternalis in anencephalous monsters (ninety per cent. according to Shepherd) supports the reversion view, it is offset by the high percentage (four per cent.) in normal subjects, for this is far too high for a structure of such age as the reptilian presternal. Cunningham has advanced another hypothesis, first suggested by the frequency of this anomaly in women, that this is a new inspiratory muscle, having its origin in reversion, but serving a useful purpose when it recurs, and therefore likely to be perpetuated.

These fortuitous variations, as well as variations in the proportions of organs, play an important part in the present discussion upon heredity, for it is believed by the Weismann school that such variations, if they chance to be useful, will be accumulated by selection and thus become race characters.

The Limits of Reversion.—There is such a wide difference of opinion upon the subject of reversions that it is important to determine what are some of the tests of genuine reversions? How shall we distinguish them from indefinite variations or from anomalies like the sternalis muscle, which strain the reversion theory to the breaking-point?

Testut,[3] Duval, and Blanchard take the extreme position that almost all anomalies reproduce earlier normal structures, and that the exceptions may be attributed to the incompleteness of our knowledge of comparative anatomy. I may here observe that popular as the descent theory has recently become in France, neither these anthropologists nor the palæontologists show a very clear conception of the phyletic or branching element in evolution. If they do not find a muscle in the primates they look for it in other orders of mammals. Now, since these other branches diverged from that which gave rise to man at a most remote period, the discovery of a similar muscle may be merely a coincidence; it is by no means a proof of reversion.

The first test of reversion is therefore the anatomy of the atavus, and this is derived partly from the palæontological record of the primates, partly from the law of divergence, viz., that features which are common to all the living primates were probably also found in the stem form which gave rise to man; finally, from the comparative anatomy of the living anthropoidea.

The second test is whether a structure passes the limits of reversion as determined by cases of atavism in which there can be no reasonable doubt. Two of these phe-

[1] Or extensor ossis metacarpi pollicis. See Testut, p. 553.
[2] Quain describes seventy anomalous muscles (Anat., Vol. I.). Testut describes a still larger number.
[3] Op. cit., p. 760.
[4] Journal of Anatomy and Physiology, 1884, p. 245.

[1] Arb. Lane: Journal of Anatomy and Physiology, 1885, p. 266.
[2] See Turner, Shepherd, and Cunningham: Journal of Anatomy and Physiology.
[3] Op. cit., p. 4.

nomena have recently been discussed, which seem to extend the possibilities of reversion back to structures which were lost at a very remote period. I refer to papers by Williams and Howes. Williams[1] has analyzed 166 recorded cases of polymastism; he finds that supernumerary nipples of some form occur in two per cent., and that in all except four of the cases examined the anomalies, tested by position, etc., support the reversion hypothesis. In the living lemurs, which form a persistent primitive group of monkeys, we find that the transition from polymastism to bimastism is now in progress by the degeneration of the abdominal and inguinal nipples, it is fair to assume that the higher monkeys also lost their abdominal nipples at a primitive stage of development, and therefore that cases of multiple nipples indicate reversion to a lower Eocene condition! Howes[2] has recently completed a most interesting study of the "intranarial epiglottis," or cases in which the epiglottis is carried up into the posterior nares, as in young marsupials and some cetacea, to subserve direct narial respiration. This has now been observed to occur by reversion in all orders of mammals, including the monkeys and lemurs. One case has also been reported by Sutton of its occurrence in a human fœtus. This is apparently a human reversion to a structure much older than the age of the lemurs.

many cases, both of reversions (as in the teeth) and indefinite variations being hereditary, that is, reappearing in several generations, or skipping a generation and recurring in the second.

Summary.—There are clearly marked out several regions in the human body in which evolution is relatively most rapid, such as the lower portion of the chest, the upper cervicals, the shoulder girdle in its relation to the trunk, the lower portion of the arm and hand, the outer portion of the foot. We notice that these regions especially are centres of adaptation to new habits of life in which new organs and new relations of parts are being acquired, and old organs abandoned.

We observe, also, that all parts of the body are not equally variable, but these centres of evolution are also the chief centres of variability. The variations here are not exclusively, but mainly, of one kind; they rise from the constant struggle between adaptation and the force of heredity. Here is a muscle like the extensor indicis attempting to give up an old function and establish a new one; it maintains its new function for several generations, and then goes back without any warning to a function which it had thousands of years ago. Thus the force of reversion strikes us as a universal factor.

Now the singular fact about reversion is the frequent

PARTIAL TABLE OF CHARACTERS IN EVOLUTION.

General Regions of Evolution.	Developing Organs.	Degenerating Organs.				
		Reduction.	Variable.	Rudiments (occasionally absent).	Reversions (from embryo).	Reversions (from germ-cells).
Skull and jaw.	Cranium.	Facial sutures. Infer. maxilla.			Premaxillary.	
Spinal curvatures.		Hyoids.	Lumbars and pelvis.	Coracoid.		
Cervicals, lumbars, and coccyx.	Female pelvis.			4th and 5th caudals.	5th and 6th caudals.	Caudals +.
Lower ribs.		8th rib.	12th rib.		13th rib.	7th cerv. ribs.
Scapula and lower humerus.	Scapula. Clavicle.					Condylar for. S. trochlear. for.
Outer side of pes.	Hallux.	4th and 5th digits of pes.	Terminal phalanx of 5th dig. of pes.			3d trochanter.
	Tibia.				Centrale-manus. Intermedium, pes.	
Teeth.....	.....	Canines.....	.....	.....	? Lateral incisor.....	..... X. .....
		Incisors, lateral sup. 3d molar.	3d molar.		? Third premolar.	4th premolar.
Flexors and extensors of arms..	Flex. prof. and perf. Extensor indicis. Flex. long. pollicis. Abd. long. pollicis.	.....	....	Panniculus carnosus..	.. ... .X.....	Trans. nuchæ.* Epitrochl. dors. Acromio-basilar. Levator claviculæ. Pect. tertius. Cor. brach. brev. Ischio-pubic.
Shoulder to trunk.	Triceps extensor surae.	Pyramidalis. Psoas parvus.				Depressores caudæ.
Trunk to femur.						Scansorius.
	Glutæal group. Facial group.	Abd. and add. hallucis.	Muscles, 5th toe.	Plantaris. Palmaris.		Abd. metars. 5th. Peroneus parvus.

* It is probable that some of these muscles are represented in the fœtus.

The third test is the inverse ratio to time. It would seem, *a priori*, that the percentage of recurrence of atavistic structures should decrease as the extent of time elapsing since the structure disappeared increases. This law is apparently established in the case of the condylar and intercondylar foramina, and if we examine all the percentages which have been established, we see at once that they bear a ratio to time; compare the relative frequency of the ischio-pubic (fifty per cent.), dorso-epitrochlearis (five per cent.), and levator-claviculæ (1.66 per cent.) muscles with the periods which have elapsed since their past service. This is why it is so important to establish percentages for all our atavistic organs; fuller statistics will not only bear upon heredity, but I can conceive of their application to the extremely difficult problem of estimating geological time. We must, of course, establish as a standard cases of congenital variation in which the frequency of recurrence has been steadily declining in the same race between two known periods of time—an available structure is the intercondylar foramen or supratrochlear foramen, as recorded by Blanchard, Shepherd, and others.

The reversional tendency is hereditary. There are

[1] Journal of Anatomy and Physiology, 1891, p. 224.
[2] Ibid., 1889, p. 587.

proof it affords of what Galton has called "particulate inheritance." When the extensor indicis reverts, all the muscles around it may be normal; therefore we are obliged to consider each of these muscles as a structure by itself, with its own particular history and its own tendencies to develop or degenerate. Thus it is misleading to base our theory of evolution and heredity solely upon entire organs; in the hand and foot we have numerous cases of muscles in close contiguity, one steadily developing, the other steadily degenerating. Reversion very rarely acts upon many structures at once; when it does, we have a case of diffused anomaly, some repetition in the epidermis, or in the entire organism of a lower type.

Yet in spite of reversion and the strong force of repetition in inheritance, the human race is steadily evolving into a new type. We must, it seems to me, admit that an active principle is constantly operating upon these particular structures, guiding them into new lines of adaptation, acting upon widely separate minor parts, or causing two parts, side by side, to evolve in opposite directions, one toward degeneration, the other toward development.

I may now recall the two opposed theories as to what this active principle is:

The first, and oldest, is that individual adaptation, or

the tendencies established by use and disuse upon particular structures in the parent are, in some degree, transmitted to the offspring, and thus guide the main course of variation and adaptation.

The second is that all parts of the body are variable, and that wherever variations take a direction favorable (that is adaptive) to the survival of the parent they tend to be preserved; where they take the opposite direction they tend to be eliminated. Thus, in the long run, adaptive variations are accumulated and a new type is evolved.

It is evident at once, from a glance over the facts brought forward in this lecture, that the first theory is the simplest explanation of these facts; that use and disuse characterizes all the centres of evolution; that changes of structure are slowly following our changes of function or habit.

But while the first explanation is the simplest, it by no means follows that it is the true one. In fact, it lands us in many difficulties, so that I shall reserve the *pros* and *cons* for my second lecture upon Heredity. The Lamarckian theory is a suspiciously simple explanation of such complex processes.

(To be continued.)

Original Articles.

GOTTSTEIN'S NEW IMPROVED CURETTE FOR THE REMOVAL OF ADENOID VEGETATION FROM THE VAULT OF THE PHARYNX.[1]

By FRANK E. MILLER, M.D.,

THROAT SURGEON TO THE VANDERBILT CLINIC; CONSULTING THROAT SURGEON TO ST. JOSEPH'S HOSPITAL, NEW YORK.

In October, 1890, I was presented with one of Gottstein's newly improved curettes, by Dr. G. M. Edebohls, of this city, on his return from the Berlin Medical Congress. He remarked at the time that it was the latest instrument used for the removal of adenoid vegetation from the vault of the pharynx, and, so far as I am aware, it was the first used in this country.

The success with which I have met since then in its use, coupled with the belief that it will create a revolution in operations for adenoid growths, has induced me to present a brief description of the instrument, and its *modus operanai*.

It is a source of great satisfaction when the operator can take the smallest child, suffering from enlargement of the pharyngeal tonsil or adenoid growth, and without danger, or the use of an anæsthetic, remove in one sitting the entire growth. To appreciate the advantages this instrument possesses in the removal of adenoid vege-

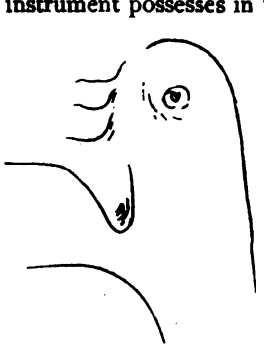

FIG. 1.

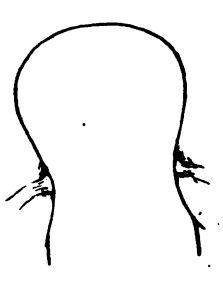

FIG. 2.

tation, a knowledge of the anatomy of the parts involved as well as of the various instruments is necessary.

The naso-pharyngeal space is formed above by the body of the sphenoid bone and the basilar portion of the occipital. The posterior wall, almost a continuation of the upper, is formed by the anterior surface of the atlas and the first cervical vertebræ. The anterior wall is bounded by the horizontal portion of the palate, the winged process of the sphenoid, and the posterior surface of the soft palate, which by its contraction forms the lower boundary of this space. The lateral walls are formed by the fossæ of Rosenmuller, the tubal prominences, and the opening of the Eustachian tubes. If we make a vertical section through the skull, *i.e*, from above downward, we find that the posterior nasal cavity or naso-pharyngeal cavity, forms a space as depicted in Fig. 1.

Should we make such a section as to cut through the Eustachian orifices, we should find that our post-nasal cavity would resemble Fig. 2, the tubal prominences indicating the most narrow portion of the cavity.

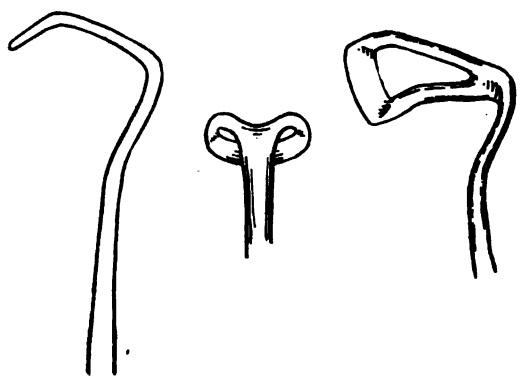

FIG. 3.

As we view our schematic outlines, we perceive there are three great points to be avoided in adenotomy: 1st, the soft palate; 2d, the turbinated bodies; 3d, tubal prominences. As we shall note later, the peculiar curve of this instrument (see Fig. 3) prevents any possibility of injury to these structures, which cannot be said of other instruments now used for the removal of these growths. The mucous membrane of the naso-pharyngeal space is of importance, as on the upper posterior and lateral walls it is rich in cellular structure and abounds in follicles. This follicular mass bears the name of adenoid tissue, pharyngeal tonsil, or Luschka's tonsil; when this becomes enlarged or hypertrophied we have the condition known as adenoid vegetation, or enlargement of pharyngeal tonsil.

Nearly every practitioner of medicine has patients presenting the symptoms characteristic of this disease. They are, briefly stated:

1. Change in voice, loss of resonance, the words sounding dull and muffled; this change of voice is also noticeable in acute angina and hypertrophy of the tonsils.

2. Inability to breathe through the nose, thereby compelling the child to breathe through the mouth. The child sleeps with its mouth open and snores loudly. As a result we have drooping of the lower lip, and the face assumes that heavy, stupid expression so pathognomonic of this condition. The sense of hearing is also affected. According to Hartman and W. Mayer, in about fourteen per cent. of cases there are disturbances of hearing, that may be of slight nature such as ringing in the ears, or there may be deafness present in a high degree. The senses of taste and smell also suffer. The child may complain of pain in the occipital, or a sensation of pressure in the frontal, region. If the condition be allowed to progress the child becomes anæmic, and the chest remains flat, undeveloped, and sunken in. This condition is often overlooked by the family physician; or, when spoken to by the parents concerning the mouth-breathing of the child, he attributes it to "a bad habit, which must be corrected."

The frequency of these growths can be readily appreciated when one reviews the statistics of Dr. F. Chappel, of New York, who found, by personal examination, that sixty out of one thousand school children in this city had adenoid growths at the vault of the pharynx. In 9,000 cases treated in the class of Professor G. M. Lefferts, at the Vanderbilt Clinic, 593 were cases with adenoid vegetations. (In 1,000 cases, 61 were adenoids.) It is a

[1] Read before the Hospital Graduates' Club of New York City.

matter, therefore, of no little importance that this condition be early recognized, not alone by the specialist, but by the general practitioner as well, for with him rests the power of relieving, perhaps, many children of the disagreeable symptoms connected with this condition, and of preventing much future suffering, mental infirmity, as well as facial and physical deformity.

Removal of these growths is generally effected by surgical interference. When the vegetations are not large we can use the cautery, but the larger growths are best extirpated by forceps, snare, or curette. Guye, of Amsterdam, used his finger-nail to scrape away the growth. Copart and Lenox Browne used a curette connected to the finger by means of a double cylinder, which also acts as a finger-shield. Chiari, of Vienna, uses a cold snare introduced through the anterior nares. This method is effective and has the advantage of causing but little bleeding, but it requires a skilful hand. Probably in the majority of operations the post nasal cutting forceps are used. They consist of a pair of curved forceps with sharp cup-shaped blades at their end. These require to be introduced several times before the growths are completely removed. To remove them all in one sitting with this instrument requires the use of an anæsthetic. Anyone who has witnessed an operation of this kind under an anæsthetic, and has beheld the struggling of the patient as the blood trickles down the throat, the oft-repeated vomiting of blood during the operation, and the almost asphyxiated condition of the patient, can well wish for some new instrument whereby these dangers can be avoided. Moreover, there is the possibility of injuring one or other of the turbinated bodies, Eustachian tubes, or soft palate. With Gottstein's newly improved curette this possibility is avoided. No anæsthetic is required, and one sitting usually suffices to remove the growths entire. By reference to Fig. 3 the shape of Gottstein's improved curette can be seen.

The old curette consists of a shank with a slight curve at one end, to which is attached at right angles a hollow, triangular curette of steel, having at its base a bevelled edge sharpened toward the apex. The improvement consists in the peculiar curvature of the cutting part of the instrument. This curvature is specially adapted to the anatomy of the pharynx, so that there is no danger of injuring or removing any part of the pharynx other than the hypertrophied pharyngeal tonsil.

The instrument is introduced sideways (see Fig. 4)

FIG. 4.

FIG. 5.

into the patient's mouth, passed beneath the soft palate and up along the anterior wall of the naso-pharyngeal space, with the cutting edge directed toward the posterior wall, until the vault of the pharynx is reached. The physician then places his left hand behind the patient's head in order to hold it securely, depresses the handle of the instrument so that the cutting edge is brought directly in front (see Figs. 5 and 6) of the adenoid growth, and with a backward and downward movement removes the growth. It is always well to have an assistant hold the patient's hands. The advantages are: 1. Quickness. 2. No necessity for ether. 3. Thoroughness, provided the instrument be properly introduced. Besides, the shape of the instrument is such that no damage to any of the adjacent structures is possible, as in the case of post-nasal forceps; and also, no cicatrization follows, as is the case when the galvano-cautery is used. The operation is simple, requiring but little skill, and the technique can be easily acquired by every physician.

I base the above conclusions upon seventy-eight adenotomies, which have been attended with uniform success. Several of my *confrères* at the clinic, Drs. Richards, Colles, and McEvoy, have found it equally effective. To the last-named I am under obligations for assistance and material.

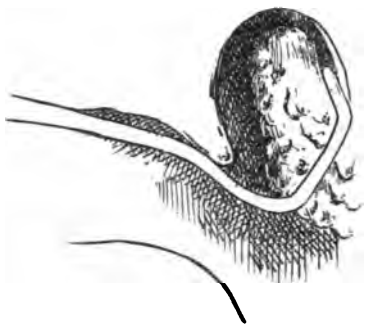

FIG. 6.

TREATMENT OF ŒSOPHAGEAL STRICTURE BY PERMANENT TUBAGE.

BY WALTER F. CHAPPELL, M.D., M.R.C.S. ENG.

NEW YORK.

STRICTURE of the œsophagus, however produced, causes so much distress that any suggestions for its relief, or to benefit the condition of the sufferer, must be acceptable to every practitioner. In every case of organic stricture we have to decide on the best manner of nourishing and sustaining the patient in the later stages of the disease.

Gastrotomy has been most relied upon to effect this end, but owing to the seriousness of the operation, and the usual weakened condition of the patient when it is performed, the result obtained cannot be considered a success; in fact, the operation itself often proves fatal, and is therefore only resorted to that the patient may escape the horrors of starvation. The use of a short tube for feeding was advocated by Sir Morell Mackenzie many years ago. In 1884 Dr. Charters Symonds exhibited a short tube before the Clinical Society of London, very similar in design and for the same purpose as that recommended by Mackenzie. This tube was an improvement in shape and manufacture on Mackenzie's, and was intended for permanent retention, while Mackenzie only allowed his to remain in position a few days at the most.

The possibility of keeping the tube in the œsophagus for from one to six months, as has been reported by several observers, greatly increases its usefulness, until at the present time most cases of malignant stricture, if seen moderately early, can be so managed as to render gastrotomy unnecessary; indeed, in very advanced cases we can frequently introduce a small tube and sustain the patient until the disease has progressed to a further degree and implicated some other organ which terminates life and spares the patient a gastrotomy or the trials of slow starvation.

When the disease ulcerates through into the trachea the short tube cannot be retained in the œsophagus. As this condition occurs only very late in the case, the œsophageal opening rarely closes completely if a short tube has been used, and the patient can be nourished with a long feeding-tube for the time which he needs it. The use of the short tube has been confined chiefly to cases of malignant stricture, and has therefore been only palliative in its usefulness, but I have found it of great service as a curative agent in other forms of stricture. In recent and slight cases of traumatic stenosis of the gullet, where we may expect a good result from gradual

dilatation, the presence of a short, silk, gum-elastic tube at the seat of stricture, in the interval between the passing of the bougies, will hasten the restoration of the calibre of the œsophagus. When used for this purpose we need a set of tubes each a little smaller in diameter than the corresponding bougie to be employed. After passing the bougie into the œsophagus and allowing it to remain ten or fifteen minutes, it is removed, and a suitable short tube introduced and kept in position four or five days, until the next-sized bougie is passed. This method of dilatation prevents contraction of the stricture in the interval between the passing of the bougies. We also get the dilating effect of the mere presence of the tube in the stricture. In some cases of nervous or hysterical strictures it is also of service when they have resisted the continuous passing of the bougie for some time, or have recurred. In one case I employed a soft rubber tube, and allowed it to remain in position two weeks. After its removal the patient swallowed perfectly for a month, when the attack recurred. The tube was reintroduced and allowed to remain a week, when recovery was complete and remained so. The moral effect of the presence of the tube was no doubt the chief element in recovery.

It seems to me that a similar use of the tube might be made after internal œsophagotomy. After this operation we rely upon the passing of bougies to maintain the calibre of the tube, and while I have not had an opportunity of testing it, it seems from our experience with short tubes in gradual dilatation that we have every reason to expect that an introduction of a silk gum-elastic tube, say four or five days after an internal œsophagotomy, and used in conjunction with the bougies, would be a great assistance to us in restoring the œsophagus to a more normal condition. Of course, better success may be expected when only a short part of the œsophagus is implicated in the stricture.

A description of the tubes used and the methods of introduction, with some suggestions as to the management of the cases, will, I think, be valuable. The tubes are made of gum elastic on silk web, or of soft rubber with thickened walls. The former are the most useful, as in fact it is only in a few cases that the soft rubber could be used. The length of the tube varies from four to seven inches, according to the length of the stricture, or if there are two strictures close together the tube may be long enough to include both. The soft-rubber tube rarely requires to be more than four inches long, as it is only applicable to strictures at the upper extremity of the œsophagus and can be easily introduced and so nicely adjusted in position that a tube of this length is usually sufficient. The superior extremity is funnel-shaped and rests on the top of the stricture. The small end is rounded and has an eye about half an inch from the extremity. The bone of the tube is as large as possible consistent with the strength of the tube, and extends past the eye to the inferior extremity. This allows the whalebone introduced to be carried to the bottom and then easily removed. According to my experience, however, it is just as well, if not better, to have the small end of the tube open, as it is not so likely to get filled with food. A stout silk thread of requisite length is then passed through the tube on either side of the funnel-shaped extremity. The tube is then washed in a carbolic solution and the outside coated with vaseline. The position and size of the stricture have of course been ascertained by bougies.

The œsophagus is disinfected as much as possible by directing the patient to swallow a solution for that purpose; I then give two or three teaspoonfuls of a one per cent. solution of olive-oil and cocaine. This not only facilitates the passing of the tube by its lubricating properties, but also shrinks the tissues and increases the calibre of the stricture to a small degree.

When the stricture is at the upper extremity of the œsophagus the tube can be introduced by simply engaging a bougie in its funnel end; but when it is further down we have to guard against the tube coiling up during introduction. For this purpose Dr. Symonds recommends a whalebone introducer, which is passed to the bottom of the tube, and outside of this a gum-elastic sheath, which is engaged in the funnel extremity. The whalebone will keep the tube stiff, and pressure may be made on the sheath from the top of the tube. Plenty of time must be taken, and only the gentlest manipulations employed. If the stricture is not too narrow you can get some assistance by directing the patient to swallow while you exert gentle pressure. The silk thread which is fastened to the tube keeps it under control, and is usually brought out of the mouth and fastened on the cheek. I have found this a very troublesome procedure, as a good deal of mucus always accumulates in the pharynx and mouth, and the presence of a thread in the mouth increases this to such a degree that it is almost unbearable to some patients. To obviate this I passed a very small soft-rubber catheter through the nose into the mouth and secured the thread to it, then drew it up through the nose, removed the catheter, and left the thread in one of the nasal passages. The thread was then fastened to the cheek with plaster. By this means the thread is kept in the back of the pharynx and well out of the way of the fauces. In the two cases in which I employed this method the patients said they had very little discomfort.

The soft-rubber tube is prepared for introduction in the same way as the silk-elastic, and when the case is suitable for its employment can be easily introduced with the finger and a bougie. If the case is progressing favorably under the tubage treatment it is advisable to remove the tube once in two weeks, and after cleansing reintroduce it. In cases of malignant stricture it is necessary at first to remove the tube more frequently than this, owing to the dilatation which often follows the first introduction.

The following are short histories of a few cases treated with the tubes:

Mrs. V——, aged fifty-one, came under my care on June 2, 1890. She had an excellent family history. Sixteen years before the present illness began she had some difficulty in swallowing solids. The physician attending her at that time diagnosed it as nervous stricture of the œsophagus. He blistered her back and throat and gave her tonics. She did not lose flesh or strength, and after about eighteen months was so much improved that she discontinued the treatment. Since that time, however, and up to the beginning of the present illness, she was obliged to swallow solids with care, as she found they would stick in her throat, and if she drank quickly she choked. Soon after Christmas, 1889, she found the slight difficulty in swallowing was increasing, and two weeks later it was very pronounced. From this time she rapidly grew worse, and by April 1st was reduced to fluid diet. Her voice began to grow hoarse about this time. These symptoms progressed until June 2d, when she came under my observation. I found her much emaciated, pale and haggard in appearance, and she had swallowed nothing for thirty-six hours. Not having a suitable long tube at hand, I tried to pass a No. 7 English gum-elastic catheter, but was not successful. A hypodermic of morphine was then administered and the patient directed to swallow one-half a grain of cocaine dissolved in water. In twenty minutes I passed the catheter without difficulty and gave some milk. A few hours later a tube was introduced and food again given. The following day I passed a No. 6 bougie and found the stricture was sixteen inches from the upper incisor teeth, which is the usual point from which measurement is made.

From the history, appearance of the patient, and great salivation present, there could be no doubt a malignant growth had to be dealt with.

On June 6th I improvised a short tube by taking sufficient of the upper extremity of a long feeding-tube, which has a funnel shaped end, and introduced it at the seat of stricture. The first day it caused some coughing, but after that she swallowed without difficulty, providing she

did so slowly. A week later I removed the tube and put in a new one which I had had made. This she wore continuously until July 14th, when she began to feel nauseated, and I was obliged to remove the tube. From June 10th till July 14th she gained seven pounds in weight and was much stronger and very comfortable. After the removal of the tube she swallowed liquids, but the vomiting and coughing was so great that she did not retain anything, and a thin, dark-brown, grumous fluid began to appear in the vomit; on the 17th she had a violent chill, followed by fever, the temperature going up to 103° F.; she was delirious and became comatose, and died the following day.

On post-mortem examination a malignant growth was found in the lower part of the œsophagus. It implicated about four inches of the œsophagus and had nearly destroyed its walls to that extent. It had also extended to the trachea and perforated it just above the right bronchus. The neighboring lung-tissue on both sides was implicated, and also the wall of the aorta. A carcinomatous mass about the size of a large hen's egg was found in the walls of the stomach, near the œsophageal opening. It protruded into the cavity of the stomach and was very vascular. Its surface showed signs of erosion and recent hemorrhage. The heart-walls were thin and pale, and the pericardium contained two ounces of pus.

Miss C——, aged twenty-seven; never had any special illness, but was always nervous. Had been in a house during the summer which was undergoing repairs and thought she caught malaria. While eating supper, about two weeks before consulting me, found she was suddenly unable to swallow anything solid; taking liquids also made her choke. When I saw her she was thin, pale, and weak, extremely nervous about her condition, as she was sure she felt a lump rise in her throat and choke her every time she attempted to swallow. After spraying the fauces with cocaine I passed a No. 10 œsophageal bougie with little effort, and the following day a No. 13, which was about full size for her. Mixed bromides and quinine were prescribed, and the patient told she could now swallow any food she wished. She returned in a week and reported that for a few days after her visit she was all right, but she now felt the lump in her throat and could not swallow. I again passed a full-sized bougie and sent her home only to have her return ten days later with another attack. These recurrences were repeated several times until she became quite despondent. I then introduced a soft-rubber short tube, about No. 10 in size, and let it remain for two weeks. During this time she took plenty of fluids and called to tell me that she was quite sure she could now take solids. A few days later I removed the tube and she was able to swallow perfectly for a month, when after some excitement the old trouble returned. The tube was again resorted to, and after four days she was quite well and remained so.

I have no doubt that in this case the tube hung free in the œsophagus soon after its introduction, and that the patient swallowed outside of it as well as through it. I have employed the tube in two other cases, one of hysterical stricture, where it was only a partial success, owing to nausea; the other, a mild traumatic stricture, where it was used as an aid to gradual dilatation with marked success. Not having any notes of these two cases I am unable to present them in detail.

It seems remarkable in case No. 1 which I have reported that so large a growth should be found in the stomach without causing any distress or symptoms which would draw attention to its presence. I only discovered it two or three days before death when the vomiting came on. Up to that time there had not been the slightest complaint of distress in the stomach.

Dr. S J. Mixter, of Boston, has suggested a new instrument for introducing the short tube. I have not used it, but Dr. Robert F. Weir, who has had considerable experience with it, tells me that he prefers it to any other.

22 East Forty-second Street.

A CASE OF SACRAL HYSTERECTOMY.[1]

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Within the past ten years important progress has been made in the matter of attaining access to the organs of the pelvis, with a view to surgical manipulations upon them or their entire removal from the body. Such attempts were not new at the time, as a review of the history of vaginal hysterectomy and of the operations upon the rectum will teach us. But it was not until we had acquired a high degree of surgical self-assurance by the practice of antiseptic and aseptic methods that operations seeking to effect an entrance into the pelvis from its outlet found favor among the profession. Since then the latter have rapidly advanced to the position of universally recognized and even typical operative procedures. To the last of these surgical ventures, the operative interference with the female sexual organs after resection of the sacrum, a favorable reception has not been so generally accorded. Yet I believe that for the relief of certain conditions this method is better adapted than either laparotomy or vaginal hysterectomy. In this conviction I have ventured to place before the Society the following observation:

C. C——, married, thirty-five years of age, has had six children, and one miscarriage in January of last year. From this time on she has suffered from continual hemorrhages until March, when the cervix was amputated by one of our local gynecologists, apparently for incipient cancer. Her hemorrhages then ceased until two weeks before admission to the hospital (beginning of September). She has lately suffered much from an offensive discharge. On admission her general condition was certainly not encouraging. She was much emaciated and very anæmic. The vaginal portion and the collum had disappeared; the fornix of the vagina was continuous with an opening into the body of the uterus, which was surrounded by nodular ulcerated masses. The body of the uterus was not movable. In the right broad ligament no infiltration could be made out. The left broad ligament was much contracted, drawing the uterus to the left. Close to the uterus it was converted into a mass of infiltrated tissue, continuous with the body of the uterus, but not reaching quite to the wall of the pelvis. Having decided on sacral hysterectomy the patient was put under ether and placed on her right side, with her lower limbs moderately flexed, the left thigh being brought somewhat nearer the abdominal walls. An incision about six inches long was carried from the posterior border of the anus, over the coccyx and sacrum, in the median line down to the bone. The soft parts covering the posterior surface of the sacrum were detached to either side until the lateral borders of the bone were reached. After division of the sacral ligaments I removed that part of the sacrum and coccyx lying below the third sacral foramina with a bone forceps, cutting the bone transversely. The rectum was drawn to the right, and with the left index in the bowel as a guide, its attachments on the left side were separated with the knife, exposing the upper part of the vagina and the cul-de sac without the least difficulty. The peritoneum was readily recognized by its bulging, when pressure was exerted on the abdomen. It was caught with forceps and incised. The tumor, comprising the uterus and left ligament, immediately presented, but unfortunately I also very soon discovered a complication for which I was not prepared. The tumor had perforated into the peritoneal cavity, and had formed a broad attachment with the sigmoid flexure. Moreover, the left ureter was seen emerging from the carcinomatous mass. It was ligated and cut. Resection of the involved intestine was considered out of question on account of the patient's condition. The bowel was accordingly peeled off from the uterus, fortunately without tearing into its lumen, and then the removal of the carcinomatous mass became an

[1] Read before the New York Academy of Medicine, Section on Surgery, December 14, 1891.

easy matter. The large vessels were tied as they were cut during the division of the broad ligaments. With an incision in the vagina the tumor was readily detached from the bladder and rectum by cutting through the healthy tissue of the vaginal wall. In consideration of the divided ureter and the cancerous infiltration of the gut, I did not close the peritoneal cavity, but tamponed it with iodoform gauze. The patient rallied well from the operation, which had lasted two hours. On the second day two and a half ounces of urine were secreted; the first day's amount was equally small, but it had not been accurately measured. On the third it increased to twenty ounces, and then decreased again, corresponding to the continual flow of urine from the cut ureter into the wound, which began on the same day On the fourth day symptoms of iodoform intoxication set in, and sterilized gauze was substituted for iodoform gauze, but the patient died on the seventh day. At the post-mortem examination a strip of iodoform gauze was found among the intestines, which had escaped detection at the dressing. There was no peritonitis, and the cavity of the wound was lined with healthy granulations.

In determining the position into which the patient was placed during operation, I was guided by the infiltration of the left broad ligament, and the consequent lateroflexion of the uterus to the left. If the right broad ligament had been invaded, I should have placed the patient on her left side. In this way the rectum will be most readily held aside, assisting in this by its own weight. I have operated for cancer of the rectum several times in the knee-elbow posture, and I have been well pleased with it when the seat of disease was at some distance from the anus. The manipulations for detaching the rectum and sigmoid flexure from the sacrum are more easily conducted when the patient is thus placed, but in extirpation of the uterus I should adhere to the lateral position, varying it according to circumstances, in which I find myself supported by no less an authority than Czerny [1] in a recent publication.

In my operations on the rectum and uterus I have always chosen the median incision, which I have carried well over the sacrum for about six inches, commencing at the anus. The soft parts, after being duly detached from the bone, seem to me to yield sufficiently in either direction to admit of free exposure of the rectum, vagina, and uterus. In Woelfler's parasacral method, where access to the pelvis is sought through the sacro-sciatic foramina, without the removal of any bony structures, a lateral incision is properly recommended, and a Y-shaped incision in Hegar's [2] osteoplastic resection, in which method the coccyx and part of the sacrum are temporarily displaced upward in connection with the superincumbent tissues. I have had no personal experience with these incisions. But the first has in several instances failed to give sufficient room for the removal of the uterus,[3] and the osteoplastic method has been generally condemned as an unnecessary complication of wound-treatment. Furthermore, I think the objections raised against the removal of bone (weakening of the floor of the pelvis, interference with the functions of the bladder and rectum) are merely of a theoretical nature. Kraske and Hochenegg, who have the largest experience with the method, have observed none of these disadvantages. I have myself not heard of any unpleasant symptoms in the cases that have come under my own observation from this source. On this account I have lately adopted the transverse section of the sacrum in preference to the other methods [4] of more, or less complete excision of that part of the left half of the sacrum lying below the third sacral foramen.

These more conservative sections seem to have resulted rather from a willingness on the part of the operator to avoid opening the sacral canal than from a fear of removing too much of the osseous support of the floor of the pelvis. As a cutting instrument I can heartily recommend a strong bone-cutting forceps. In chiselling off the sacrum I have also met with the accident that Hochenegg refers to, splitting of the bone. Further, it appears to me that the sacrum, projecting without any support into the posterior aperture of the pelvis, is not well adapted to the use of the chisel and mallet. The chain-saw and metacarpal saw have been recommended, but I cannot conceive that their application will be more simple, quick, and effective than that of the bone forceps. Besides, the latter has two advantages,[1] it closes the sacral canal by compressing the spongy tissue, and it prevents hemorrhage from the cut surface of the bone itself for the same reason. The latter has occasionally proved very annoying to me when the chisel was used.

It must be acknowledged that the case reported this evening was not a very favorable one for the testing of a new method; still, I believe that such are the only cases in which it will ever be adopted. Where we have a fairly large vagina, a movable and medium-sized uterus, no infiltration of the broad ligaments, it seems to me that vaginal hysterectomy for cancer of the uterus will answer every demand for a simple and safe surgical procedure. Where the uterus is so large that it cannot be reached from the vagina *in situ*, and inversion into the incised cul-de-sac is impossible, laparotomy or laparo-vaginal hysterectomy is indicated. But we all know how unsatisfactory these operations are for cancer when the disease is no longer confined to the organ itself, but has invaded the vaginal wall and the broad ligaments. We know that the vaginal method is entirely impracticable in those cases. The impaired mobility of the uterus, indicating such a condition, and the infiltration of the broad ligaments itself, which can always be detected under anæsthesia, ought to deter us from any attempts in this direction. Even laparotomy is connected with certain disadvantages in these cases. Surgical manipulations low in the pelvis are exceedingly difficult when the ligaments are infiltrated. It should be a rule in surgery to avoid operating at a distance, especially in cases of malignant tumors. The amount of security from recurrence after operation is proportionate to the exposure which the surgeon has been able to make of his field of operation. I am well aware in this connection that the retroperitoneal lymphatics are generally involved only in the last stages of cancer of the uterus, but at several of the sacral hysterectomies now on record a few lymphatics have been found infiltrated and have been removed, which would otherwise have escaped detection. The only way of fulfilling the indication just alluded to is to approach the organs of the pelvis on the plane in which they lie. The anatomy of the pelvis teaches us that this can only be accomplished by entering the pelvis from behind, the only bony resistance which we meet here being the lower part of the sacrum and the coccyx.

For the removal of tubes and ovaries the sacral method does not seem to have given satisfaction in the few cases in which it was employed, especially where there were many adhesions. In my own case much time was sacrificed in locating and separating the single adhesion between the uterus and the sigmoid flexure. Where tubes and ovaries are matted together and adherent to the intestines, the cul-de sac perhaps obliterated, it will be the next thing to an impossibility to operate by the sacral method. For these cases laparotomy alone is indicated. There is no need of getting at the seat of disease so thoroughly, and of such close inspection as in malignant disease. For the evacuation of pus in the pelvis, however, and the treatment of allied conditions, the sacral, or even the parasacral, method might be advantageously employed. I have lately seen a suppurative circumscribed pelvic peritonitis where, as the result of bursting

[1] Czerny: Beiträge zur klin. Chirurgie, vii., 19.
[2] Wiedow: Berl. klin. Wochenschrift, 1889, 10.
[3] Czerny: Beiträge zur klin. Chirurgie, vii., 19. Goldmann: Beiträge zur klin. Chirurgie, vii., 18.
[4] Kraske: Verhandlungen des XIV. Chirurg. Congress, Berliner klin. Wochenschrift, 1887, 48. Hochenegg: Wiener klin. Wochenschrift, 1888, Nos. 11-16, and 19; Ibid., 1889, Nos. 9 and 19.

[1] Maass: Deutsche Zeitschrift für Chirurgie, vol. xxxii., p. 233.

of the abscess into the rectum and operative interference from the vagina for drainage, a recto-vaginal fistula has persisted for some time, causing much discomfort by the passage of fecal matter and flatus through the vagina, with no tendency to heal. In this case the sacral method has forcibly suggested itself to me as the safest and least disfiguring means of closing the fistulous opening in the rectum. Hochenegg[1] has even extended its application to cases of atresia of the anus, of prolapse of the rectum, and of sacral tumor, all of which he has operated on with more or less success by the sacral method.

The immediate results of the sacral method for extirpation of the uterus are, I think, encouraging. Terrier and Hartmann[2] have collected 23 cases with 7 deaths. Adding my own, and 2 which Dr. F. Lange has kindly permitted me to mention, in which the patients have recovered from the operation, we have 26 cases with 8 deaths, 1 from shock, 2 from pelvic cellulitis, 3 after ligature of one of the ureters, and 1 presumably from iodoform poisoning. In one case no autopsy was made.

I will not detain the Section with the usual analysis of these cases. Several of them at least are not attributable to the operation itself. Considering the class of cases we are dealing with—with few exceptions cases of far extended malignant disease of the uterus that have been frequently considered beyond the domain of legitimate surgery—I think the sacral method may claim precedence of laparotomy in cases of cancer of the uterus where the growth is no longer confined to that organ itself.

THE REMOVAL OF SUPERFLUOUS HAIR BY ELECTROLYSIS.[3]

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We are called upon to perform the operation of permanently removing superfluous hair not always in order to satisfy mere vanity or the common desire to please, but very often in order to remedy an evil which, trifling as it may appear, is a constant source of serious inconvenience, even great mental suffering. The young girl who deeply grieves at seeing the bright prospect of her life sadly spoiled by the appearance of a disfiguring hirsute growth on her face, and the middle-aged lady who, being affected in a like manner, goes about heavily veiled, avoids all social intercourse, and becomes more and more irritable, morose, and despondent; these are types of easy recognition and rather frequent occurrence. These unfortunate persons generally fall an easy prey to quacks or the unscrupulous venders of some magic depilatory. Let me state from the outset that as yet I have not met with a single case which had not been made worse by some previous treatment or interference at the hand of the patient. A pair of scissors is usually the first handy instrument which is used to cut off the offending hairs. Then perhaps the hairs are rubbed off with a pumice-stone-like substance which is in the market for this purpose. The depilating forceps may come next, or if the lady is of a more energetic disposition she may apply a resinous plaster in the manner of the French "calotte." After this plaster is made to adhere firmly to the skin it is pulled off, removing all the hairs, which come away with the plaster very much in the manner as did Hercules's skin with Nessus's shirt. The various caustic depilatories remain now for a trial. They generally contain one of the following substances: sulphuret of barium, sulphide of sodium, sulphide of lime, and tersulphuret of arsenic or orpiment. While it may be admitted that these remedies in exceptional cases reach the bottom of the hair follicles and thus effect a cure, it must be stated that in the majority of cases they do more harm than good. The hairs reappear, and in addition the epidermis becomes rough, red, and irritable. After all these efforts have proved in vain some of these women will resort to the razor and become proficient in the masculine art of shaving. *Ce n'est que le premier pas qui coûte.* If a lady is once accustomed to shave herself she will, as a rule, become reconciled to her fate and not apply for further treatment.

The removal of superfluous hair by electrolysis is the only operation which is at all certain of success. It was first used by Michell, of St. Louis, and afterward by Hardaway, Piffard, and other American physicians. The mode of procedure, as is well known, is as follows: The patient being placed opposite a good light, with the head resting in a comfortable position (I use a barber's chair for this purpose), a fine needle or a jeweller's brooch, connected by means of a suitable holder with the negative pole of a galvanic battery, is introduced down to the bottom of the hair follicle by keeping the needle parallel with the direction of the hair. The circuit is then completed by the patient grasping the positive pole tightly. The chemical action of the caustic alkali which is developed at the negative pole destroys the hair papilla. Besides this there are, I believe, certain indications which point to the fact that a peculiar retrogressive change begun under the electrolytic current is kept up for some time after the latter has been discontinued.[1] All this is very simple from a theoretical stand-point; but the practical success of the operation depends upon numerous little details to which it is absolutely necessary to pay close attention. In the first instance, the armamentarium should be complete It consists of a galvanic battery, a milliampèremetre, a rheostat, a needle-holder, a sponge-electrode, some fine needles or jeweller's brooches, and a depilating forceps. Any ordinary battery will do the work, but experience has taught me that twelve to fifteen simple Leclanché cells are superior to all the more complicated apparatus. Never should the operation be attempted without a milliampèremetre.

In an article on electrolysis, published in Dr. Unna's *Monatshefte für praktische Dermatologie*, vol. x., No. 7, I have pointed out this fact, and never since have I let pass an occasion to emphasize it again. As regards the needle-holder, the one which I devised some years ago has proven its general utility. It is constructed so that the needle can be inserted at an angle, it has no separate screw nor clasp, is light, and enables the operator to feel his way, so to speak, into the follicle. Needle-holders which have an attachment for closing and interrupting the current should not be used, since they cause sudden shocks and produce very unpleasant sensations. It is advisable to let the patient herself close and interrupt the current by tightly grasping the electrode attached to the positive pole. Before beginning to operate we connect both poles—sponge and needle—and then by aid of the rheostat (I use a carbon water rheostat) make the milliampèremetre register 10 milliampères. To this is afterward added the resistance which the body of the patient offers. This amounts, with our arrangement, to about 8 to 9 milliampères. We consequently use a current of 1 to 2 milliampères. During the operation all the cells of the battery are at work and the internal resistance, *i.e.*, the resistance in the battery, about equals the external resistance, *i.e.*, the resistance offered by the rheostat, the electrodes, the body, etc. This arrangement guarantees the best results. If the needle is introduced into the hair follicle and the current closed, twenty seconds will suffice to destroy the hair, which will be found to be perfectly loose, and which has to be removed at once by forceps. During the electrolytic action small air-bubbles and minute quantities of whitish sebum will often appear at the orifices of the hair follicles. I do not think that these simple effects of the chemical action of the electrical current have any special significance. The operation is uncomfortable, it is true, but there are few patients who declare it to be seriously painful or unbearable. A twenty per cent. salve of cocaine in lanolin, thoroughly rubbed

[1] Wien. klin. Wochenschrift, 1889, No. 26.

[2] Terrier et Hartmann: Annales de Gynécologie, Août et Septembre, 1891.

[3] Read before the Metropolitan Medical Society.

[1] Dr. G. H. Rohé, MEDICAL RECORD, September, 1888.

into the skin, enables even very sensitive patients to undergo the operation with ease. I am well aware of the fact that the cataphoric action of the electrical current has been used to render the skin insensible. My experience in this regard is rather limited.

An accident which has lately been reported has strengthened the prejudice which I have against making pass into the circulation of the blood a solution of cocaine without knowledge of its mode of absorption and without means of an accurate dosage. How many hairs can be removed in one sitting, and how many hairs will come back afterward? These questions are constantly asked. I have made it a rule to remove as many hairs as possible in one prolonged sitting, often from fifty to a hundred. These sittings are repeated in intervals of a week to ten days. Provided the operation is done with care and skill no more than five to ten per cent. of the hairs will come back Immediately after the operation the patient's face is washed with hot water, to which some alcohol may be added. The redness and wheals which the operation is likely to produce generally subside in a few hours, but is followed by an inflammatory process in and around the hair follicles. This inflammation lasts a day or two, in some cases even longer. In one of my cases small superficial abscesses appeared the third day after the operation. In order to avoid all such unpleasant complications I prescribe the following salve:

℞. Lanolini,
Ungt. aquæ rosar ..... ℥ ss.
Hydrarg. bichlor. corros..... gr. j.

This is to be applied at night and washed off in the morning, and has proved to be an excellent antiseptic measure. It is best only to extract the coarser and more deep-seated hair and to leave the lanugo hairs alone. If these directions are followed no perceptible scars will result and an absolute cure will be effected.

Some time ago there came under my observation the exceptional case of a lady on whose chin a keloid was produced by the electrolytical treatment for the removal of superfluous hair. The lady told me the amusing fact that another physician had tried to remove this keloid by electrolysis.

Let me touch, in conclusion, upon the very interesting question of the etiology of hirsuties. Virchow, Ecker, Bartels, Waldeyer, Unna, and others have advanced various well-known theories. Dr. Geyl, of Dordrecht, has tried to show of late, in a very clear and impartial manner, that universal as well as circumscript hirsuties is the result of the persistence and continued growth of a part or the whole of the fœtal or primitive hair, and that this deformity, as it were, is a pure atavism in Darwin's sense. As regards facial hirsuties, in women particularly, Dr. Geyl claims that it usually makes its first appearance about the time of puberty or of the menopause, both periods when all the cells of the human organism are in a peculiar state of activity. A so-called sexual hirsuties (around the pubes and axillæ) is, in the majority of cases, combined with the facial hirsuties. The beard which grows on a woman's face is equivalent to the beard of a man only in a secondary manner; both have their origin in the hairy condition of the face of our primeval ancestors. These theories are in so far of practical interest, as they confirm the opinion that an ordinary irritation produced, for example, by mercurial ointment, moist dressings, a blister, etc., will not cause a true hirsuties. Lanugo hairs may under these conditions grow to an extraordinary length, but will not be transformed into the coarse and deep-seated hairs with which we have to deal. On the other hand, if a person has a slight degree of general or circumscript hirsuties, or if there exists a hereditary tendency, any local irritation is liable to stimulate the hair into vigorous growth. Electrolysis itself decidedly acts as an irritating measure, and if we remove only a small number of hairs at a sitting, we will make very slow progress, if at all, and our patient will be sadly disappointed.

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Clinical Department.

AN ODOR IN INFLUENZA, AND COEXISTENCE OF THE DISEASE WITH OTHER INFECTIONS.

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WOODSTOWN, N. J.

While attending, about two years ago, a family of eleven, all down with the "grippe," my attention was called by the mother to a peculiar smell or odor which she described as most disagreeable and offensive, and which she attributed to the disease. They not being particularly careful as to their personal hygiene, I paid no attention at the time to the matter. Subsequently, I was called to attend a man, aged thirty, of Irish descent, who, though about the house, suffered with fever and attending symptoms of aches and pains, cough, and muco-purulent expectoration, about whom there was so strong and offensive an odor that the whole room in which he lived was strongly scented. From his occupation as a farmer, I thought, at the time, that the odor was probably incidental to his calling, and that he had possibly been working in an unclean hen-house, or possibly in musty grain. Soon after, a niece of the above was stricken with the disease, and in her case I noticed the same odor. From that time to the present, I have paid close attention to this symptom, and have noticed its constancy in those cases of undoubted identity as cases of the epidemic, and have found it most marked in patients of Irish descent; but less marked, yet present, in some of those of non-Irish descent.

The odor has the same characteristic in all the cases, namely, the smell of "blue musty meal," in the words of one patient; to my nose, a mixed odor of a foul hen-house and musty meal. The odor was particularly noticeable in the clothing, the sweat, the sputum, in one case in the vomit, and in nearly all cases the air of the sick-room was most foul from the odor.

It is with considerable hesitancy that I write of this matter, but I feel sure of my ground in that the odor is distinct from the ordinary smell of fevers, and that it is, when present, characteristic of the disease. In fact, so true has this been in my experience, that when, at the first meeting with a patient having the odor, a snap-diagnosis was made, the diagnosis has been confirmed by the history, the concurrent symptoms, and progress of the case.

In what follows I wish to speak of several cases in which the "grippe" has been complicated with another disease, concurrent, not intercurrent, and of the influence one disease exercised on the other.

The first case was that of a child, twelve years of age, of delicate constitution, of keen intelligence previous to her attack of the "grippe." I found her about the house with a fever of 103° F.; pulse, 120; cough; lungs full of râles both moist and sibilant; dulness at the apex of the right lung; expectoration muco-purulent; night-sweats profuse; odor above mentioned distinct. Irish parentage. History of phthisis on the mother's side. Treatment with tinct. aconite, rad., gtts. ij. every two hours, did not reduce the fever, nor the rate of the pulse. The fever persisting after trying spts. etheris nitrosi, hydrobromic acid, quinine, antifebrin, antipyrine, I, carefully watching the case, gave her two-drop doses of aconite every five minutes for an hour, without results of any kind. The next day, soon after leaving her, I was summoned to her, as she was "in a fit"—so the message ran. I found her suffering from an hysterical attack, and caught her forcing her fingers down her throat to produce vomiting. Firmness, and exposing her deception, soon relieved her of her "fit," but still there was the same fever and high pulse. The next day, she was bed-fast, unconscious, with at times the whole body suffused from temporary vaso-motor paralysis. A consultation was

held the same day, and death occurred on the next, the patient not having regained consciousness. The vomit during the hysterical fit was most offensive from the peculiar odor, and was so for months afterward, some of it having been preserved in a sealed bottle. Diagnosis, tubercular meningitis.

In this case, no doubt, the presence of the influenza aggravated a dormant tuberculosis.

Again, in a family of four adults, there was in three of the cases, along with the influenza, an accompanying sore throat. The fauces were congested, the arches and palate scarlet, but the tonsils were not swollen, though red; no coating. In the other case there was only a slight sore throat without influenza. In two of the three both lungs were congested, and in one of the two there was lobular consolidation. The soreness of the throat persisted for several days. I traced the sore throat to a case in the neighborhood, of a child sick, about fourteen days, with what was decided by the attending physician to be diphtheria. One of the four of my patients had been to see the sick child and to help the family in their trouble. Moreover, everyone about the neighborhood who had been in to see the sick child suffered from the sore throat. The child was said to be red all over.

Here we have, then, the sore throat of scarlet fever, in adults, aggravated and persisting, probably through the influence of the influenza.

Again, I was called to see a man, aged about sixty five, Irish nationality, suffering from chills, high fever, pains, cough, râles, expectoration, etc. . Aconite and ammonium carb. relieved him soon, when suddenly there was another day of high fever, lasting all day and most of the night; no cough, no râles, no dulness, no pain. The time of onset of the chill was not carefully noted, but it was evidently about noon, the following fever being much more severe every other day. In this case the peculiar odor was so strong, the whole room and bedding being saturated, that it was a relief to escape from its presence. Quinine in large doses at 9 A.M. and 9 P.M., daily, relieved in a few days, but there followed a very painful orchitis. On the cessation of the paroxysms there was no further manifestation of the influenza, there being no cough and no râles. There was, however, profound depression, and even a slight melancholia.

In this case we evidently have the influenza poison modified by the paludal poison, to the extent of aborting its full manifestation; yet the duration of the hyperpyrexia was greatly lengthened.

In the previous cases the influenza undoubtedly aggravated the tubercular and scarlatinal poisons, whereas it, in its turn, was rendered quite impotent in the presence of the paludal miasm, although the antagonism developed a high reaction.

Such evidence, if well founded, I consider of the greatest importance to the study of the relations of infectious diseases to each other, and it is in the hope that study in this direction will result in some benefit, that this matter is thus presented.

The Fasting Crank.—Signor Succi has come to the conclusion that his professional reputation is at stake through the recent starving achievement of Monsieur Jacques, as he is now trying to beat the record by a fast of fifty-two days at the London Aquarium. It is a strange comment on this latter-day civilization that men should be able to make a living by starving themselves before an admiring public.

Suicides in Paris.—The official report shows that 890 people committed suicide in Paris during the past year, 243 of whom hanged themselves, 205 were drowned, 164 asphyxiated, 138 shot, 65 jumped from windows, 33 were poisoned, 24 stabbed themselves, 5 jumped under moving trains, and 13 left this sphere by various other routes. Among the drowned and window-jumpers the majority were women.

Progress of Medical Science.

Tannin in Mucous Plaques.—Dr. Thiery (*Gaz. méd. de Paris*, No. 9, 1891) says application of tannin several times a day to syphilitic moist papules, hypertrophic mucous patches in the mouth, and lesions of like nature about the anus, cause speedy healing, and is further to be recommended for its freedom from harm.

Bacillus Viridans is the name applied by Dr. Symmers (*British Medical Journal*, December 12, 1891) to a micro-organism which he has discovered in vesicles of herpes labialis. The microbe, which is of the chromogenic variety, occurs either as a rod or thread form. Free spores do not occur as a rule, but cylinders filled with spore like bodies were obtained after influencing the growth of the bacillus by means of antiseptics. The microbe grows luxuriantly on many different nutrient media. The pigment has not yet been isolated in a pure form. It shows green by reflected light, straw-yellow by transmitted light. It changes with age to sienna, and finally a crimson tint is added. The bacillus is differentiated from that of Frick by its power to liquefy gelatine, and from the bacillus fluorescens liquefaciens by the formation of threads and spores, tendency to grow out into filaments, etc. The pigment was shown not to be pyocyanin by its insolubility in chloroform.

Chyluria.—Chyluria is not as frequent here as in India, still now and then a case is encountered, and while there is no drug known to be especially efficacious in its treatment, it is of interest to read in the *Indian Medical Gazette*, December, 1891, that Dr. Walsh has secured good results from gallic acid, gr. xv. thrice daily, together with two-grain thymol pills. Gallic acid is not a new remedy in this disease, but the thymol was added because it has been found to be an excellent anthelmintic. In a case reported the chyle disappeared from the urine, and no filariæ could be longer found.

Contribution to the Histogenesis of the Papillary Cystomata of the Ovary.—Dr. Williams publishes an article under the above title in the *Bulletin of the Johns Hopkins Hospital*, December, 1891, from which the following conclusions are drawn: 1. The Graafian follicle. This is probably the usual point of origin for the development of these growths; and according as the membrana granulosa is ciliated or not, so the growth will be of the ciliated or non-ciliated variety; and according as the affected follicles grow within the folds of the broad ligament or not, so the growth will be intraligamentous or not. 2. The germinal epithelium. This is the most frequent, and perhaps the only, source of origin for the superficial papilloma, and probably is frequently the starting-point for the usual form of the multilocular papillary cystomata. 3. The tubal epithelium. From a consideration of the conditions in Case I., it is probable that some cases are developed from ingrowths of the epithelium of the tube into the stroma of the ovary. This mode of origin is, however, not yet absolutely proven.

These conclusions tend to prove that the work of all the later investigators in this direction, except those who accepted the Wolffian-body theory of development, has been accurate and of real scientific value; but no one observer seems to have met with all of the different forms of development presented in this article.

Boric Acid in Furuncle and Carbuncle.—Dr. Alison recommends the application of a hot solution of boric acid, forty grammes to the litre, as a friction to the surrounding parts, and as a compress over the lesion, renewed five or six times daily, and always applied hot. Internally, from eight centigrammes to a gramme of the acid are administered daily. It can be taken in wafers morning and night, and is found absolutely harmless for the stomach and other organs.—*Revue générale de Thérapeutique.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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INFECTIOUSNESS OF TUBERCULOSIS.

THE Medico-Chirurgical Society of Glasgow recently presented a memorial to the Town Council of that city calling their attention to the generally admitted infectiousness of tuberculosis, and praying that measures be instituted by them for the protection of the community from its ravages. Among the considerations presented by the committee appointed to frame the memorial were the following:

"1. Tuberculosis is an infectious disease in the sense that in all cases of this disease the one constant and necessary element in the causation is a microbe. This microbe grows and multiplies in the bodies of certain animals and of man, when introduced from without, and in so doing it produces an intensely active poison which is the more direct agent in bringing about the morbid changes in the living structures. There are doubtless other elements in the causation, such as inherited and acquired susceptibility, but the microbe is the only essential and constant one, and there is evidence to show that, without any special susceptibility, it may produce the disease if introduced in sufficient quantity.

"2. As the microbe will not grow except at a temperature almost identical with that of the body, the living bodies of men and animals affected are the great propagating places of it. They are the sources of the supply, and constitute the centres from which the infection is derived. But the microbe is not retained in the bodies of the persons affected. Most of the forms of tuberculosis are characterized by discharges of matter from the affected parts of the body, and these discharges contain the microbe—often in very large quantities. The most frequent form of tuberculosis is consumption of the lungs, and persons affected with this disease almost constantly spit up matter which is loaded with the infective microbe. The spit of such persons when dry is liable to be pulverized into fine dust, and this in its dissemination carries the still living microbe with it.

"3. It is believed that tuberculosis is fairly to be compared, as regards its infectious quality, if not with typhus and small pox, at least with typhoid or enteric fever, although the mode and channel of the infection may be so different as to make it much less obviously dangerous to live in the same house or room with a case of consumption than it would be in the case of one of the well-known contagious fevers. Tuberculosis, however, is much more disastrous in its results than all the other infectious diseases put together."

The committee did not venture to prescribe any particular mode for dealing with the infection, but suggested that the public be authoritatively informed of the harmful nature of all discharges from tuberculous persons, and more particularly from cases of consumption of the lungs, and that they be encouraged to have these discharges rendered innocuous, and also to submit their houses and clothing to disinfection at intervals during the currency of the disease, and again at its close.

This is a very commendable action on the part of the Medico-Chirurgical Society, and it is to be hoped that the Town Council will act upon the suggestion offered. But this is not, as some of the English journals have claimed, the first attempt ever made to educate the people up to a practical recognition of the infectiousness of tuberculosis. The New York Board of Health long ago undertook that task, and much good has already resulted from it.

ST. LUKE'S HOSPITAL.

IT is reported that the Trustees of St. Luke's Hospital have purchased a large tract of land at 113th Street and Morningside Avenue, that they will shortly begin the erection of hospital buildings thereon, and that they will sell the land at Fifth Avenue and Fifty-fourth Street, at which the hospital has been located for so many years. That this move on their part is a wise one, nobody who knows of the institution can doubt. The land which they now occupy is of great value—it is said to be worth two and one-half millions of dollars—while that to which they remove costs but one-fifth of that sum. The institution will therefore be a cash gainer to the extent of two millions of dollars, which, added to the present endowment, will yield an excellent income wherewith to equip and maintain modern buildings.

The new site is one of the most beautiful and healthful in or about New York. It is in immediate juxtaposition to that on which the magnificent new cathedral of St. John the Divine is to be built, while there is much probability that the Bloomingdale Asylum property, just above, will be bought and occupied by Columbia College.

This portion of the city bids fair, then, to be the seat of most important interests, access to which will be made more easy with the improvements in rapid transit.

St. Luke's Hospital deserves the kindest thoughts at the hands of the medical profession. Its management has always been prudent, conservative, and wise. It has aimed to be, and has been, a truly charitable institution. It has not opened a dispensary on Fifth Avenue for the care of people who would drive to it in carriages, but has sheltered with kindness the deserving poor. It has selected its medical officers with care, and has looked upon them as gentlemen, and not as hirelings. Instead of taking the ground that "the hospital confers all, the doctors owe everything to it," this institution has recognized the fact that while the medical men gain very much in knowledge and in position, they do give very much of valuable thought and time in work which may well be construed as charitable.

For these and many other reasons, then, we wish the St. Luke's Hospital all prosperity in its new undertaking.

THE PRESENT STATUS OF THE INFLUENZA QUESTION.

SOMETIME ago the MEDICAL RECORD received by cable the first announcement from Berlin in regard to the simultaneous discovery of the influenza bacillus by Pfeiffer and Canon. Both gentlemen have been able to cultivate, on either glycerine-agar, or dextrose agar, the bacilli, the former from the sputum and bronchial and pleural exudations, the latter from the blood, of the influenza patients. These bacilli were stained according to a method previously described in the MEDICAL RECORD, and then carefully studied. It was found, according to Pfeiffer and Kitosoto, and also Canon, that the influenza bacillus is the smallest bacillus discovered, and, according to its discoverers, can be very easily differentiated by the peculiarity of its growth, inasmuch as each colony is separated from the other and appears entirely isolated, Moreover, the colonies cannot be distinguished with the naked eye, and for this reason it is easy to explain why former observers, having gone through the same *modus operandi*, have probably overlooked the presence of the bacillus when it is now known that only with the aid of the so-called "loupe" can they be recognized.

Boas, of Berlin, commenting on above discoveries, says: "There is a great deal yet to be learned in regard to the bacillus, as it is quite probable that the hasty publication of the discovery by simultaneous discoverers, for the sake of establishing their respective claims, did not give enough opportunities for calm scientific investigation." Boas rightly infers that we do not yet know whether the influenza bacillus is constantly present in every stage of the disease, or only in the febrile stage of the disease, and also whether or not the bacillus is present in the complications of the disease, as pleuritis, pneumonia, otitis media, and affections of the eye.

Then the main question, when do the influenza bacilli entirely disappear from the bronchial secretion, and also from the blood of the patients, has not yet been determined.

Koch has always very properly maintained that all experimenters must prove the pathogenetic character of their micro-organism by being able to infect the human subject or animals by a pure culture through inoculation, and be able to reproduce the same disease, or its manifestations, as the one from which the culture of bacilli was originally taken.

This, Boas maintains, has not yet been proven on man nor on the lower animals.

ONE WAY TO ADVERTISE.

THERE is a widespread popular belief that physicians do not advertise. This is not, strictly speaking, in accord with the facts of the case. Without advertising one's profession, qualifications, and ability, success is either not attained at all, or comes so slowly and so late that it can scarcely be counted a success. Bringing and keeping one's self before the public is as necessary in a physician's work as in that of any other man—but it is not necessary for him to secure the necessary publicity in the usual ways of trade. The conscientious, painstaking, and wide-awake man who does not forget what is due to himself, neglects no opportunity to do the best he can in every case which comes to him, and thus make his work, his self-denial, his gentlemanliness, all serve as an advertisement of his worth and bring him work.

He who writes, speaks, lectures, operates before bodies of physicians or students is constantly advertising himself whether he will or not. He is making an impression which will influence his professional career in one way or another. There are certain other kinds of advertising which are not looked upon so favorably by the profession when indulged in by one of its members. We shall speak now only of one. For several years past physicians in New York have received regularly each month a package of cards from a "specialist in female complaints." Now, one would not suppose that this form of advertising would pay. A man is not at all likely to refer patients to a specialist who is known to him simply through being bored twelve times a year by the receipt of some cheaply printed cards when he is probably looking for a check in the mail that brings them. That it does pay, however, would seem to be indicated by the fact that imitators have sprung up. Men equally unknown to fame, but who evidently have their printing done in the same office in equally large quantities, and mailed in numbers consistent with the limits of one cent postage. The only explanation of the success of the scheme which presents itself to us is that a sufficient number of cards sift out on the way through the mails and are picked up by the thoughtless, or that enough reach servants and ashmen by way of the waste-basket to return a profit on the outlay. We do not object to a physician's stating his specialty on his card, if he has a specialty and desires to state it, but when he regularly and persistently forces those cards upon you in large blocks, and you have never had the pleasure of an introduction, it would be quite as well to tear them in two before trusting them to the paper-basket.

THE DRUGGISTS' CHECK SYSTEM.

DURING the recent trial of the ex-medical student Harris, for the murder of his young wife, the wisdom of the check system now employed by most of the reputable drug stores in this city was well shown. Had a single clerk received the prescription, prepared the capsules, and delivered them, it might readily have been claimed by the defence that a mistake had been made by the druggist. As it was, the druggist was able to go on the stand and testify that an assistant had also read the prescription and seen the amount of morphine which it called for properly weighed and dispensed. The importance of the simple precaution in this instance should serve as a warning to all druggists who have not adopted this wise plan whenever prescriptions calling for poisonous drugs are being filled. Only a few years ago a bright young man of this city lost his life by the mistake of a drug clerk, who made him up capsules containing five grains of morphine when five grains of quinine had been called for. The dispenser thought he had the quinine bottle in his hand. It looked like quinine, and if he had suspected himself and tasted it he would have thought it tasted like quinine. He may even have believed that he read on the label "Sulphate of Quinine," but the next day the man who took it was dead, and it was then too late to call a fellow-clerk to look over his shoulder and see if he had

read aright. A physician may prescribe a poisonous dose, but the druggist is supposed to act as a check upon his inadvertence and refuse to dispense it. When the druggist has made the mistake, an assistant should stand between him and the patient. No man is infallible, and in dealing with deadly drugs two heads are to be preferred to the single article.

MADAME LA CHAPELLE.

" Heaven surely ordered, on creation's morn,
This mighty law—that children must be born.
Hence came the science thou dost show so well
With white forefinger, Madame La Chapelle."

THUS sang Dr. Holmes; and undoubtedly he did but justice to the famous midwife. In the *Johns Hopkins Hospital Bulletin*, Dr. William Osler gives an interesting dissertation on Madame La Chapelle, based upon the three volumes of memoirs which were published in 1825. She was born in 1769, and died in 1822, aged fifty-three. For twenty-five years she studied, practised, and taught obstetrics at the Hôtel-Dieu. After this she became midwife-in-chief at the Maison d'Accouchement.

The extent of her experience is shown in the table of 15,652 cases which is appended to the first volume of her works. From this we learn that she interfered in 1.73 per cent. of the cases; 15,380 cases terminated spontaneously. Forceps were used but 93 times, version 155 times. Symphysiotomy was still alive, for we find that it was done in two cases where pelves were two and a quarter and two inches in diameter, respectively. The first child died shortly after delivery; the second died with the mother. There was one Cæsarean section in a pelvis one and a half inch in diameter; the mother died the day after delivery; the child lived.

Of 15,380 spontaneous labors, 86 children were dead-born; 522 putrefied. This would give a mortality of 1.71 per cent.

In speaking of diagnosis she gives many interesting suggestions, remarking, for example: "I had always had a bad opinion of a protuberant conical belly, or one very high up in the epigastrium, and rarely has my expectation been deceived. I then have seen the head rest immobile at the superior strait, or the presentation of an unfavorable part." In speaking of artificial dilatation of the parts, she says it is not proper (as the obstetricians and midwives were wont to do) to distend and pull at the orifice of the vagina and vulva. Scientific men at all times have recognized the dangers of such manœuvres, and she quotes from Guillemeau as saying, "above all in this art, says one of the most ancient writers, the midwife will take good care neither to precipitate nor hasten anything, avoiding enlarging the passage for the child by force." "This forced dilatation," she says, "I have never sought to produce."

In the first volume she attacks Baudelocque's classification into 94 presentations of the fœtus, hinting that this was adopted partially out of deference to Solayrès, and afterward maintained from the pride of having taught it so many years. She denounces it as utterly impractical, and purely theoretical, for out of the whole 94, in a practice of thirty years, she herself had met with but 22, and she had never seen a presentation of the neck or trunk.

She gives an excellent classification of these presentations into their genera—vertex, buttocks, feet, knees, face, right and left shoulder; and species (simple and cardinal), such as occiput to the right, left, etc., buttocks to the right, left, etc., and finally varieties or intermediates, imperfect, and inclined positions.

She disapproves of symphysiotomy, and does not advise Cæsarean section except in cases of absolute necessity, and when the child is alive.

She admits that puerperal fever was frequent in the hospital. If she had known the value of puerperal antisepsis there is little doubt that the results of the work done under her skilful care would have equalled those of the present day.

News of the Week.

A Congress of Balneology is to be held in Berlin during the week commencing March 10th. Dr. Oscar Liebreich is the president of the association.

The University of the South, at Sewanee, is about to open a medical department, to be called the "Summer School of Medicine." It is to have a term of five months, beginning in April. The "long-felt want" which this new school is intended to meet is not very apparent to the naked eye.

Lord Kelvin is the title which the newly created medical peer, Sir William Thompson, will adopt. That is the name of a river that empties into the Clyde at Glasgow.

Professor Ernst Curtius, the learned Greek authority of the University of Berlin, celebrated recently the fiftieth anniversary of his graduation from the University of Halle, receiving many honors and marks of the love and esteem in which he is held by all Germany, and scholars everywhere.

A Hindoo Woman Physician was recently graduated in Edinburgh. Her name is Miss Jagannadham. She studied first three years in Madras, then two years at the Edinburgh School of Medicine for Women, where she passed her examination most successfully, and obtained the diploma of the Scottish conjoint colleges, thus placing her name on the British Medical Register. She was demonstrator of anatomy during her last session at the Edinburgh School. On leaving the school she spent a year as house physician in the Edinburgh Hospital for Women and Children. Last October Miss Jagannadham went to India, where she intends to spend her life as a medical missionary. She is at present in a hospital in Bombay.

A New Medical College for Women is to be established in St. Paul, Minn.

A Suit Against the New York Hospital for damages sustained by a boy patient who was alleged to have suffered amputation of the thigh as a result of mortification of the leg from tight bandaging for fracture, has been non-suited upon the ruling that no action for malpractice can hold against a charitable institution which uses every care in the selection of competent surgeons to treat its patients.

Lactate of Strontium is recommended in the treatment of albuminuria, in doses of eight grains. It is said to increase the secretion of urine and to reduce the proportion of albumin.

International Congress of Obstetrics and Gynecology.—The following are the subjects which have been selected for set discussion during the sessions of this body in Brussels, September next: 1, "Pelvic Suppurations," to be opened by M. Segond, of Paris; 2, "Extra-uterine Pregnancy," by Dr. A. Martin, of Berlin; 3, "Placenta Prævia," by Dr. Berry Hart, of Edinburgh.

Professor Lépine, of Lyons, will probably be chosen to succeed Professor Regnauld in the chair of Pharmacology in the Paris Medical Faculty.

Prescribing Opticians. — Ophthalmologists in this country will be ready to congratulate, while yet they envy, their brethren in France, in view of a recent decision of a court in Havre. The judge ruled that an optician who gives a patient advice as to the condition of his eyes and prescribes glasses to remedy defective vision is guilty of the illegal practice of medicine, just as if he had ordered remedies or given medical advice without possessing a diploma recognized by the law.

Dr. George W. Ryan, of Cincinnati, recently had the misfortune to fall as he was entering his carriage and sustained a Pott's fracture. His many friends in this city and throughout the country will hope for his speedy recovery.

A Legacy to the Medical Attendant.—The late Prince Louis Lucien Bonaparte left in his will a bequest of $500 to his physician, Dr. Isambard Owen. This is a case in which a prince has set an example worthy of imitation.

Dr. Robert P. Bush, Speaker of the New York State Assembly, is a practising physician. This is his seventh term as Assemblyman.

New York Maternity Hospital.—Dr. George W. Jarman has been appointed Assistant Obstetric Surgeon to the New York Maternity Hospital, to fill the vacancy occasioned by the resignation of Dr. Irwin H. Hance.

The Eleventh German Congress of Internal Medicine will be held in Leipzig, April 20th to 23d. Among the subjects for set discussions are: "Grave Forms of Anæmia," by Drs. Biermer and Ehrlich; and "Chronic Hepatitis," by Drs. Rosenstein and Stadelmann. The Permanent Secretary of the Congress is Dr. Emil Pfeiffer, of Wiesbaden; and the President is Dr. Curchmann.

Prize for an Essay on Temperance.—It is stated in the *British Medical Journal* that the President of the French Republic has offered a Sèvres vase as a prize for the best essay on the following subject: "A Study of the Best Measures to be Taken by the Legislature or by Private Initiative for the Prevention of the Abuse of Alcoholic Drinks, and for the Obviating of its Dangers." The award, which will be in the hands of the French Society for the Prevention of the Abuse of Alcoholic Drinks, will be made in December, 1892. Essays, which must be written in French, should be sent, on or before September 30th, to Dr. Motet, General Secretary of the Society, 161, Rue de Charonne, Paris.

Professor Virchow was recently elected to the presidency of the Berlin Medical Society by 135 out of 137 votes cast, Professors Bergmann and Bardeleben receiving one vote each.

Revue Générale de Médecine, de Chirurgie et d'Obstétrique is the name of a new weekly journal appearing in Paris, under the editorial management of Dr. F. de Ranse.

Congress of Criminal Anthropology.—The third Congress of Criminal Anthropology, in its relations with sociology and biology, will be held in Brussels, August 28th to September 3d.

Medical Society of the Missouri Valley.—The next meeting of the Medical Society of Missouri Valley will be held in the city of Leavenworth, Kan., March 17 and 18, 1892.

Unauthorized Use of Letter-head of Association of Acting Assistant Surgeons.—Dr. W. Thornton Parker, the Recorder of the Association of Acting Assistant Surgeons, United States Army, assures us that the use of the letter-head to which we referred in a recent issue, in connection with the endorsement of a proprietary medicine, is entirely unauthorized by him and that he has demanded its retraction from the firm in question.

New York State Medical Association.—The eighth annual meeting of the fifth district branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 24, 1892. All fellows desiring to read papers are requested to notify the Secretary, E. H. Squibb, M.D., P. O. Box 94, Brooklyn.

A New Children's Hospital.—The trustees of St. John's Guild have secured a building at No. 157 West 61st Street for a new hospital for children. The hospital is to be free for all the children of the poor without distinction as to color, nationality, or creed. It is intended that other similar hospitals shall be opened in different parts of the city as soon as the requisite funds may be obtained. The Guild calls for contributions to aid it in the establishment and maintenance of these hospitals, which may be addressed to the treasurer, Mr. W. L. Strong, 501 Fifth Avenue.

Dr. Claude M. Jones, of Boston, died in that city a few days ago. He was born in Worcester in 1845, was graduated with honors from Harvard in 1866, and from the Harvard Medical School in 1874.

Typhus Fever in New York.—Within the past week there have been developed in this city 84 cases of typhus fever in Russian immigrants from the steamer Massilia. They were promptly cared for by the Health Department at the North Brother Island Hospital and thus far no deaths have occurred. The patients are impoverished refugees from the Russian famine districts and naturally present the disease in its graver forms.

The Small-pox Epidemic in Milan is finally at an end, thanks to extensive vaccination and revaccination.

Dr. A. H. Paquet, Professor of Clinical Medicine in the Medical Department of Laval University, Montreal, died recently at St. Cuthbert.

Reviews and Notices of Books.

TEXT-BOOK OF OPHTHALMOSCOPY. By EDWARD G. LORING, M.D. Edited by FRANCIS B. LORING, M.D. Part II., Diseases of the Retina, Optic Nerve, and Choroid. 8vo, pp. 253, with 8 Colored Plates. New York: D. Appleton & Co. 1891.

THIS admirable section of Dr. Loring's work on ophthalmoscopic diseases appears three years after his death, which occurred in April, 1888. Part I. appeared in 1886, and was devoted to the normal eye, determination of refraction, diseases of the media, physiological optics, and theory of the ophthalmoscope. The present section is published by his brother, from original matter by the author, without addition or correction. The plates, too, are original with the author, and most of them are attested to by his signature.

One cannot go through the pages of this work without being arrested by the singularly broad views of disputed theories in ophthalmological matters, and by their clear and well-defined expression. Take, for instance, the paragraph on page 20, on the "Changes in the Light-streak upon the Centre of the Retinal Vessels." Where in the literature can one find so clear an elaboration of what this may mean? Without going into the argument of the author, it is enough here to refer to his opinion as to the size and shape of the retinal vessels influencing the light-streak, its color in different diseases, as in glaucoma; its alterations of intensity and brilliancy, due to an altered index of refraction, as has been said to occur in the retinitis of Bright's disease.

Further, the author discusses in a most interesting way alterations and disappearances of the light-streak in disturbances of the vitreous, concussions and blows upon the eye and head, mitral regurgitation, and aortic insufficiency. The light-streak is wanting in actual separation of the retina, but it is modified and altered, as to size and reflex, in commencing detachment of the retina.

Under the head of retinal circulation the author has written somewhat in detail on the subject of the visibility of the circulation; and he has done this on account of the retinal vessels furnishing the only possibility of accurate study of the circulation, both on account of their lying behind transparent media, and because of their smallness of calibre, and delicacy of wall. Jaeger may be said to have first described this curiosity, but many observers in Germany, England, and America have reported graphic cases. The vessels seem to be nodular, as if the blood travelled in segments. The stasis may be due to embolism, or to retro-bulbar neuritis. While in all the cases there is a reduction of vision to a quantitative perception of light, the nourishment of the retina seems to be maintained, for nearly normal vision returns on the re-establishment of the retinal circulation. Some of the phenomena of hysteria and of hystero-epilepsy correspond to those here adduced.

The chapter devoted to certain forms of inflammation of the optic nerve, and more particularly the pages on papillitis, or "choked disk," will be of especial interest to the student of ophthalmoscopy. Dr. Loring's pupils can never forget the enthusiasm with which he described the various forms of discal disease by the aid of charts and crayons. His so-called "Medusa head," well illustrated typical choked disk. He reiterates in this work, in a most persuasive and eloquent manner, just what choked disk is, and reaffirms an opinion advanced in 1882, that "it is not simply a vaso motor disturbance, which leads to inflammation and stasis on account of the anatomical condition of the parts affected, but that it is a true neuritis, an irritation of those fibres of the fifth pair which not only regulate the blood-supply in the vessels, but which also maintain the healthy processes of waste and repair of the elements of the tissues themselves. Furthermore, that the irritation is conveyed, not by the isolated fibres of the sympathetic system, but through the agency of the trigeminus, and especially of the recurrent ophthalmic branch." Von Graefe's theory of increased intra-cranial pressure, whose influence extended to the cavernous sinus, was perhaps the first important theory of the phenomenon. Galezowski maintained that choked disk was a neuritis consecutive to intra-cranial inflammation, and was propagated by continuity of tissue; hence, that it was always a descending neuritis. The author would have it plainly understood that "choked disk is choked disk, and may come from a multitude of causes," such as retro-bulbar neuritis, neuritis descendens, perineuritis of the optic sheath, intervaginal hemorrhage, neuritis from uterine disorders, tumors of the brain, syphilitic and rheumatic neuritis, hydrocephalus, etc. Under the topic of uterine disorders, the famous case of premature delivery to save sight is requoted at length, and it is cited as the first case of such attempt on record.

Part II. surpasses in interest its predecessor, in so far as it publishes the peculiar views of the author on some of the abstruse physiological and pathological phenomena of the eye. It is a matter of profound regret that this part finishes all the material left by the late Dr. Loring.

PULMONARY TUBERCULOSIS. By R. W. PHILIP, M.A., M.D., F.R.S.E., Fellow of the Royal College of Physicians of Edinburgh; Assistant Physician to the Royal Infirmary; Physician to the Victoria Dispensary for Consumption and Diseases of the Chest, Edinburgh. Edinburgh and London: Young J. Pentland. 1891.

THIS etiological and therapeutic work, based on experimental investigation, embodies results of research begun in 1885, and is in part reprinted from the "Transactions of the Ninth International Congress," where the first division was read by the author in 1887. An Appendix treats of the nature of the toxic product—an improved method for the demonstration of bacilli in tubercular sputum—and clinical method for staining the tubercle bacillus. Twenty one of the fifty-five pages of the octavo volume are taken up with record tables of experiments on mice, frogs, etc., undertaken with the view of elucidating the actual cause of death from phthisis, or the *modus operandi* of the tubercle bacillus toward this end. The result of these investigations leads the author to believe that, in all probability, the fatal propensities are attributable to a power possessed by the bacillus of elaborating new products which are afterward absorbed. Treatment is considered in reference to the stage of the process. Thus in the catarrhal, or pretubercular, period the therapeutic indications are essentially prophylactic. In the stage of invasion by the tubercle bacillus, which may be supposed to have begun developing in the catarrhal products, as in a cultivation medium outside the body, such measures are called for as will render the tissues less suitable media for the growth of the bacillus.

In the stage of elaboration and absorption of toxic products such remedies as can be proved antagonistic to them should be made use of. The author's experimental results point to atropine as one of these. This little volume is well worth reading by all those interested in the great subject.

Increase of Insanity in France.—Insanity has increased so in France that asylums can no longer hold the lunatics. The *Assistance Publique* has, therefore, decided to place some of the insane paupers who are harmless with peasant families, just as it now puts out pauper children.

Women in Swedish Universities.—The higher education of women is making great progress in Sweden. The number of women students in the universities there is now large and is constantly increasing. There are eighteen women students in the Upsala University, thirteen in Lund, and eight women are studying medicine in the Carolinske.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 7, 1892.

A. L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Final Results in Tubercular Ostitis of the Knee in Children; Analysis of Three Hundred Cases.—DR. VIRGIL P. GIBNEY read the paper. About twenty patients, numerous drawings, and several forms of dressing apparatus, were shown in illustration of the subject. The cases analyzed had been seen in the Hospital for the Ruptured and Crippled, the New York Polyclinic, or in private practice, the earliest dating back to 1868. With the assistance of Dr. Fitzhugh and others of the staff, he had during the past eighteen months found the names of 499 patients who had applied for treatment of tubercular ostitis of the knee, and of this number he was able to give an analysis of 300.

By tubercular ostitis of the knee was at present understood a tuberculous inflammation of the lower epiphysis of the femur, upper epiphysis of the tibia, primarily, and a chronic inflammation by contiguity of the immediate joint structures.

After giving a graphical clinical picture of the three stages of the disease, and impressing the necessity for its early recognition and management, the author took up the analysis of the 300 cases in detail, adding thereto what facts were known of the other 200 cases. There were 223 females, 276 males. In 239 the right knee was affected, in 235 the left. Of 387 cases the disease developed in 197 before the fifth year; in 142 between the fifth and tenth years; in 39 between the tenth and twentieth years, and in 9 after the twentieth.

Much had been written about involvement of other joints, and fear had often been expressed that the disease might break out elsewhere. But of the 499 cases there were only 16, or three per cent., wherein other joints or bones were involved. Eight of the 16 had Pott's disease of the spine, 2 ostitis of the hip, 1 disease of the ankle, 1 of the elbow, 1 of the wrist and shoulder, 2 in the other knee, 1 in the other knee, elbow, and shoulder.

Of 300 cases, 140 had abscess, 160 never had abscess. Forty had died, the cause of death being: 6 of tubercular meningitis, 14 of exhaustion after prolonged suppuration, 3 of phthisis, 2 of dysentery, 2 of amyloid degeneration, 12 of intercurrent affections not connected with the knee disease, 1 of shock following excision. It was fair to assume that 22 died as a result of the disease, causing exhaustion from suppuration, tubercular meningitis, and amyloid degeneration, which gave a mortality of 7⅓ per cent.

Treatment.—All the cases had been subjected to one of three kinds of treatment: 1. The purely expectant, which meant the treatment of symptoms with little reference to signs or correction or prevention of deformity, but an effort to relieve exacerbations, and during intervals the irregular use of apparatus, frequent changes in apparatus, no single form being used sufficiently long to test its efficiency. 2. Fixation treatment, which meant the continuous use of some apparatus, whether plastic or steel, some of which partially and some completely immobilized. 3. The protective treatment, which meant immobilization of the joint until all acute signs had subsided and convalescence could be safely predicated, the use of an apparatus which prevented concussion or trauma of any kind, whether in the shape of a perineal crutch or axillary crutches. He did not class under protection splints the ordinary extension apparatus, because the adhesive plaster with which traction was secured slipped, the skin and deeper tissues themselves moved, so that jar or trauma was not prevented. Under protection was also included correction of deformity by apparatus, manual force under anæsthetic, or incision. They had depended largely in protective treatment on the Thomas knee-splint, which was simply a perineal crutch with high shoe on the sound foot.

It had been exceedingly difficult to draw a sharp line between the three methods described. In a general way it could be stated: 71 cases had been recorded as having been under the expectant treatment, 3 deaths, 2 of which only were due to the disease; 5 came to excision, 3 to amputation, and 60 remained with fair results; 190 cases received the fixation treatment throughout. Of this number there was 35 deaths, 20 of which were traceable to the disease itself, 9 came to excision, 1 to amputation, and 145 remained with more or less fair results. Only 39 had been subjected to the protection of Thomas treatment. Two had died from causes in no way connected with the disease; 37 remained with good results.

Of 60 cases under the expectant plan, 44 had motion, 16 no motion; of 145 cases under the fixation plan, 113 had motion, 32 no motion; of 37 under the protection plan, 34 had motion, 3 had no motion. This showed that motion was more frequent in those treated by the protection plan. Tables were given showing the amount of motion. In 16 where abscess occurred, the extent of motion was 90°; where no abscess had occurred, 25 could voluntarily move the leg over an arc of 90°. Relapses had not been very frequent. Among abscess cases, in only 4 had relapses occurred in a period from seven to twenty years; among the non-abscess cases, 6 had had relapses.

The question was often asked whether patients would not require some kind of apparatus the remainder of life. Out of 300 only 36, or twelve per cent., had continued to wear some kind of support.

Deformity.—Of all cases, whether anchylosed or with motion, having had abscess or not, 150 presented subluxation of the tibia, as against 48 in which there was no subluxation. Only 2 presented complete luxation. In 183 cases where the condition of the patella was noticed, in 124 it was movable, in 59 no motion. The tables showed that of 227 cases only 15 got well, with a deformity at an angle under 135°, and 141 presented an angle of deformity of not less than 165°. This enabled them to walk with the limb practically straight and with scarcely any appreciable deformity. The protection treatment gave the largest percentage of good results so far as position was concerned; fixation next, and the expectant plan third.

Of 116 cases analyzed as to increased lengthening, sixty-two per cent. showed increase. Two or three cases were shown which illustrated the danger of operating in early life, the resulting shortening, etc., being very marked.

In conclusion, the author wished to present in as strong terms as possible the value of what was known as the protection treatment. It was efficient, and in early cases would yield almost perfect results.

DR. L. A. SAYRE, and others who discussed the paper, expressed their great pleasure in listening to the reading of it, and were of the opinion that it would constitute a landmark in statistical studies of the treatment of tubercular ostitis of the knee. Dr. Sayre related an amusing and instructive incident occurring in his early practice, to show that old therapeutic notions were not always the best. In this particular instance it referred to the ancient fear of opening cold abscesses connected with joints. He agreed with the author of the paper regarding the value of the protection treatment, but thought that something should be added in order to obviate the trauma produced in the joint by muscular spasm. He overcame this by counter-extension through means of adhesive strips.

DR. CHARLES MCBURNEY was pleased with the results obtained by the author with the conservative treatment. He seemed to think, however, that there was danger, in some instances at least, of carrying this treatment as opposed to excision too far. Where operative measures were adopted, of course it should be with special precaution to save the growing portion of the limb. His

own feeling was that, as surgeons should advance in operative procedures, they would yet approach the results of the conservative method. They would give up, to a certain degree, the complete excisions formerly practised, and come down to partial excisions, using them in such a way as to preserve as far as possible the length of the limb. He had seen a good many cases treated conservatively which had apparently passed beyond hope, yet after resorting to excision there followed rapid restoration to health. This quick release from bed, apparatus, and expense spoke much in favor of excision.

Dr. Whitman thought it should be remembered that the statistics given by Dr. Gibney were not of a single kind of treatment, and for that reason they were the more valuable. They had not been cited in opposition to operative measures. But it should be remembered, also, that there was no operative method which would enable one to dispense with careful and persistent management of the kind related in the paper. Failure to give cases sufficient subsequent attention might account for so large a proportion of relapses in cases operated upon by general surgeons. The opening of abscesses, etc., was not neglected by orthopedic surgeons.

Dr. H. L. Taylor thought the general surgeon should be impressed by the lesson taught by the statistics, that there were fewer fatal cases from prolonged suppuration, etc., attending the conservative treatment than they seemed to think. He approved of protection and immobilization, but agreed with Dr. Sayre that there should also be counter-traction to overcome trauma from muscular spasm. This he would effect by light weights or adhesive plaster. It might be effected in part in the standing posture by the weight of the leg, while the patient was wearing the Thomas splint, with the shoe on the sound foot elevated.

Dr. Reginald H. Sayre impressed the need of preventive or protective treatment even where operative measures were resorted to. He agreed with others who advised traction as well as protection against the trauma of jar.

Dr. Gibney made some closing remarks, expressing the opinion that there was not, he thought, much difference between him and the other speakers, including even Dr. McBurney. He was not opposed to operations where they were really needed, but amputation or any other operation could not be advised in these cases on the strength of being a short and inexpensive route. Protection and general care should not be neglected subsequently, and the expense of artificial limbs would soon exceed that of cases which could get along without an operation or amputation.

Stated Meeting, January 21, 1892.

Alfred L. Loomis, M.D., in the Chair.

The Elements of Contagion in Tuberculosis.—Dr. T. Mitchell Prudden read a paper with this title, opening the discussion bearing on the question of prevention of tuberculosis. The meeting was under the auspices of the Section on Public Health and Hygiene, Dr. H. D. Chapin, Chairman.

Dr. Prudden presented, in his usual concise and argumentative way, the evidence pointing to the tubercle bacillus as the cause of tubercular phthisis, and the conditions under which its propagation and spread were most likely to take place. While the germ propagated and showed its virulence only in warm-blooded animals, yet it might remain alive outside, especially in the dried state, and after months set up tubercular disease when transported to a favorable soil.

By far the most common mode of transportation or source of contagion was in the expectoration of persons suffering from pulmonary tuberculosis. The dried sputum became mingled with the dust of the air and was inhaled into the lungs. The fact should be impressed upon the public that the tubercle bacillus alone could cause tuberculosis, although there were many other contributory conditions. But without the tubercle bacillus this particular affection could not arise, however favorable might be the surroundings, heredity, etc. Vague notions of the cause of tuberculosis should disappear, and all should come to realize that it was due to something definite, to something which we could see, handle, and kill. With this fact impressed upon the mind the public would more readily appreciate the further truth, that the living virulent tubercle bacilli were floating in the dry dust in the air where consumptives made their homes, and that close attention upon and association with such persons, without intelligent precaution, frequently involved acquirement of the disease.

We had learned that what once was considered hereditary transmission of the disease was often nothing but household poisoning, or exposure to the germs of the disease wherever they might exist. The author defined an infectious disease to be one which was caused by the invasion and reproduction within the body of pathogenic micro-organisms. Not necessarily an invasion by bacteria, however. Infection was the condition produced by the entrance and multiplication of pathogenic micro-organisms within the body. An infectious disease was contagious when its contagium, that is, its micro-organism, could under ordinary conditions of life be freed from the body of the diseased person and conveyed to the body of another, and there light up anew the disease. The difference in physical qualities of the contagium, of place, and way in which it was freed from the body and carried to another, would account for much of the mysticism surrounding the term contagious. The fact that such infectious diseases as diphtheria and tuberculosis could be highly contagious or scarcely at all, so depended upon the care taken by the victims or their attendants in disposing of the exudates or discharges.

Along with any legislative suggestions or means taken to prevent tuberculosis, the public must be educated regarding its contagious character. The people should not be allowed to get the idea that methods for its prevention meant ostracism or isolation.

On the Necessity and Possibility of Efforts to Prevent the Spread of Tuberculosis.—Dr. Edward G. Janeway said that in his part of the discussion he would only consider the contagiousness of pulmonary phthisis and certain measures which could at least be attempted in the way of controlling the spread of the disease, as coming from persons already suffering with it. There were to day, he said, only few physicians who hesitated to accept the bacillus tuberculosis as the direct exciting cause of tubercular phthisis. Yet the idea was more or less prevalent that heredity played a most important part. As evidence of the contagiousness of the affection, several cases were related from the author's note-book. A father and mother were healthy, one of their children became affected, and then all the others in succession fell victims to the disease. In another instance, a son married a young lady having phthisis, and he, his mother, and brother became affected, although belonging to a family without natural tendency. A lady coming from a family free from phthisis, went to live in a house where a man had died of phthisis, she herself contracted the disease. A family free from tubercular history, father and mother and three children still living; a child in the family, two months of age, was kissed by the daughter of a person in attendance, the daughter having phthisis with bacilli in the sputa, the babe became infected and died with rapid inflammatory disease of the lung breaking down into cavity.

Estimating the number of the living suffering from phthisis as one third the number dying of that disease in any given year, which was certainly within the true limits, he said we would have at any one time in New York, during the year 1890, 16,000 persons with tubercular phthisis. Much the larger proportion were over ten years of age. Admitting the presence of so large a tu-

berculous population, and that the disease was contagious, how was it that so many escaped contracting the disease? The answer lay in powers of resistance. Under certain conditions the resistance became diminished, and then exposure to the tubercle bacilli was likely to lead to tuberculosis.

Speaking of modes of prevention, the author lamented the crowding of population to such an extent as it existed in New York, where, over a given area, the number of inhabitants was very great, which meant under present conditions filth and vitiated air. This was shown by the fact that New York had more cases of contagious diseases comparatively than Philadelphia, which was spread over a much greater ground area. There were exceptions in typhoid fever and small-pox, to be accounted for in the former case by the difference in water-supply, and in the latter by New York's better sanitary restrictions over small-pox.

Admitting even the probability of truth in the germ theory as applied to tubercular phthisis, every physician should instruct his patients suffering from this affection how to best prevent the spread of the germ. It might be made the duty of the physician to report his cases to the authorities, who should send rules to the family or patient. Third, inspectors might be employed by the authorities to visit reported cases, and instruct patients and friends what measures should be adopted, and to inquire from time to time regarding the carrying out of the instructions received; but a combination of the two former seemed to the writer all that could at present be attempted. There should be explicit printed rules in all necessary languages for distribution by physicians to patients and their friends. He would suggest the instructions include destruction of the sputum; cleanliness about the mouth and beard; not to allow sputum reach the floor or touch beds, and when this happened, to employ thorough disinfection; frequent change of bed sheets, and keeping bed-covers clean; occupying different rooms as far as possible, by sick and well; the sick to sleep alone; hotels should not put the well into rooms which had been occupied by tubercular patients, at least without informing them, and after thorough disinfection. Vessels to expectorate in should be placed in public halls, etc., contain, say water, and be disinfected by boiling water. Marriage with the phthisical might be discouraged.

The Prevalence of Consumption in the United States.—Dr. John S. Billings, of Washington, sent a brief communication bearing on this part of the subject, which was read by Dr. Chapin. The death-rate, according to the census returns, had been 1.6 per cent. per thousand of the population for 1890; in 1882 it had been 1.8 per cent. In both instances the figures were too low, probably, by at least twenty per cent. Taking certain States, in 1890, the rate in Connecticut had been 2.34; District of Columbia, 3.59; Massachusetts, 2.67; New Jersey, 2.34; New York, 2.45, etc. From these data it was quite safe to assume that the whole number of deaths due to pulmonary phthisis in the entire country, during the year, was over one hundred and twenty-five thousand. The death-rate from this cause was greatest in the larger cities.

As to the number of cases of pulmonary phthisis existing at any one time in a given locality, it could only be estimated from the number of deaths. If one estimated the average duration of the disease as two years, there would be two cases in existence for every annual death. In this way we could estimate 11,000 in existence in New York City, 4,000 in Brooklyn, 13,000 in the rest of the State.

Recognizing that the chief means of conveyance of the contagion was the dried and pulverized sputum, Dr. Billings said special attention should be given to caring for sputum and to cleansing floors, etc., of public resorts, but particularly those places where the vicious were accustomed to congregate. At present there was special need for attention in these respects to criminal court-rooms. Here classes congregated who expectorated upon the floor, were dirty in person, yet it seemed to be the general custom to allow such rooms to go uncleansed, or dry dust was swept out, contaminating the air and furniture. This was a frequent source of tuberculosis among lawyers.

Recent Investigations concerning the Contagiousness of Pulmonary Phthisis; what Rules Can the Profession Properly Advocate for the Government of the General Public.—A verbal discussion took place on this subject, opened by Dr. A. Jacobi. He said he would limit his remarks to the prevention of tuberculosis in children. Tubercular phthisis being a contagious disease, the virulent agent must enter from without. Very seldom did any form of contagion, not even diphtheria, arise without there previously being a broken skin or mucous membrane. Recognizing the many sources of exposure to the tubercle bacillus, he spoke warmly against the indifference manifested, not only by the public, but also often by physicians, regarding the existence of an eczema, a diarrhœa, a sore mouth, an abrasion of any kind in children. Especial attention should be given catarrh of the larynx, of the pharynx, of the nose, of the intestinal tract, and other lesions of mucous membranes, and also of the integument. Tuberculosis of the intestinal tract almost always gave a preceding history of neglected diarrhœa. Another point was that children should not take their milk unboiled. All domestics should be examined before being admitted into the household.

Dr. J. West Roosevelt thought the rules to be given the public were, after all, very simple. The question which we had to consider was not the dealing by medical men with sick people, but impressing the public with the duty of simple cleanliness in its most complete form throughout the house. The people should be taught not only to disinfect sputum and to observe cleanliness to its fullest extent, but also the reason why. It was largely a question of ventilation and cleanliness. A patient suffering with phthisis should have a room, every part of which could be scrubbed with soap and water. In sweeping, use damp tea-leaves.

A Question of Seed and Soil.—Dr. Andrew H. Smith said there were two factors to be taken into consideration, one being the seed, the other the soil, and in proportion as we made these facts clear to the public, would our advice for preventing the spread of tuberculosis be followed. When asked why so many escaped when the tubercle bacillus was so plentiful, he answered by illustration, saying that rice sown on the top of a sandy hill would never bring forth a crop; or, prepare a river bottom ever so well, and sow no rice, there still would be no crop. It required the proper seed and also the proper soil to reap a harvest. Applying this to tuberculosis, to prevent dissemination of the seed was very important, yet of equal importance was it to obviate preparing a suitable soil. Every mode of life, every surrounding which depressed the vitality, made the soil better for the germination of the seed. In the country whole families were often affected, which Dr. Smith attributed to small rooms, want of ventilation, and uncleanliness. The town post-office, he thought, needed attention as well as the criminal court-room. Might not the germ be carried in the mail?

Dr. William H. Porter thought far the most could be done in eradicating tuberculosis by feeding properly from infancy up. Yet he would not belittle attempts to prevent the entrance of the germ of the disease in all possible ways.

Dr. C. C. Currier said that, by request of Dr. Chapin, he had searched the literature for any evidence going to support older views, especially that regarding hereditary influence. Baumgarten, who was an eminent authority and familiar with bacteriological investigations, had tried to show, in an article in the *Deut. Med. Wochenschrift*, October 13, 1891, that heredity was perhaps a more important factor than inhalation of bacteria. Children who

were, it seemed, most exposed to infection, were not specially subject to tuberculosis, especially that of the lungs. Much testimony of a negative character had been given, such as the absence of tuberculosis among nurses in institutions for pulmonary phthisis, etc. Baumgarten, Rindfleish, and others, claimed and gave some proof that the bacillus tuberculosis could be inherited, and remain latent many years. Considering the possibility of inheriting the disease, it could safely be stated that tuberculous families should not intermarry.

The President, DR. LOOMIS, said he hoped any person wishing to take part in the discussions of the Academy would do so. It was not intended to limit the speakers to those whose names were printed on the programme. The only reason why readers of papers had been requested to name some who would participate in the discussion, was that it should be made pointed and more interesting. It was not intended, however, to prevent others from speaking.

DR. LEONARD WEBER thought the Academy should formulate some rules bearing on the prevention of spread of pulmonary tuberculosis in line with the discussion of the evening, for circulation by means of the public press, Board of Health, etc.

DR. A. JACOBI agreed in this suggestion, and the President said it was the intention of the Section on Public Health and Hygiene to again bring the matter before the Academy.

Caution with Care.—DR. LAURENCE JOHNSON said the belief was still common that pulmonary phthisis was a hopeless disease, and if by any regulations physicians were compelled to state to every patient the nature of his affection, many who otherwise probably could be cured would be cast into fatal despondency. He thought the public should be taught that all sputa, no matter what might be the nature of the cough, should be disinfected; that to expectorate upon the floor or anywhere else, except as physicians advised tuberculous patients to do, was extremely nasty.

Opposed to Kissing.—DR. AUGUST SEIBERT thought one of the examples given by Dr. Janeway showed most clearly the possible evil of kissing. This habit was so common among school-girls as to constitute a serious source of danger in conveying contagious diseases. He had before suggested the propriety of a daily inspection of the throat of school children.

The Public Should be Educated, not Frightened.—THE PRESIDENT said that while all the speakers admitted the contagiousness of phthisis, yet to use this term without explanation would be liable to convey to the public the idea that they were in as great danger of contracting this disease as scarlet fever or small-pox, which they also knew to be contagious. It was necessary, therefore, to educate the people regarding the extent and manner in which tubercular phthisis was contagious, and not to unduly frighten them. Regarding prevention, he thought the keynote had been struck a number of times during the discussion: it was, in its simplest form, cleanliness. As Dr. Johnson had said, people should be taught that all expectoration was nasty. No gentleman would spit in public. He might find it necessary to use his handkerchief, but he would not be seen expectorating. Teach the people to bathe, to wear clean clothes, to keep their houses clean, get fresh air. We should live more out of doors, as they did in England.

An Important Section.—DR. CHAPIN hoped the attendance on the meetings of the Section on Public Health and Hygiene would hereafter be in proportion to the importance of the subjects with which, from its title, it evidently had to deal. He hoped they would be well attended by public-spirited citizens as well as by the profession.

Sir James Paget's Son is an English clergyman, and has recently been appointed Dean of Christ Church, Oxford.

SECTION ON SURGERY.

Stated Meeting, December 14, 1891.

WILLIAM T. BULL, M.D., CHAIRMAN.

Two Cases of Brain Abscess Successfully Treated by Opening the Skull and Drainage.—DR. B. B. GALLAUDET presented the cases. The first occurred in a boy, aged twelve years, who fell and struck the head, causing a depressed fracture. A week after the injury the boy began to be a little stupid and dull. Nothing further was observed until a week before his entrance to the hospital, when several convulsions of the muscles of the right side of the face had occurred. There were no more convulsions after his admission to the hospital. His mental condition was somewhat dull. About two inches above and posterior to the top of the ear there was a small scar; the boy was up and about for four weeks, during which time he showed mental improvement. Then there developed fluctuation over the scar. A small incision let out about a drachm of pus, and afterward more pus came from within the cranium. A few hours later ether was administered, a small portion of eroded bone was removed, pus escaped through an incision into the dura, the hole in the skull was further enlarged, the dura split open, and there at once escaped half an ounce of pus. The cavity within measured nearly an inch in diameter. It was washed out with Thiersch's solution. The boy made a good recovery, his mental condition having again become normal.

The second case occurred in a girl, aged six, who was admitted to the hospital August 29th last, with a history that she had just fallen from the third story of a house, struck her head on the sidewalk, and was brought immediately to the hospital. There were general symptoms of extreme cerebral concussion. Locally a soft hæmatoma was found, extending an inch or more over the right supra-orbital arch; no fracture could be detected by ordinary means, and owing to the extremely prostrated condition of the patient, it was not thought advisable to cut down immediately on the hæmatoma. The patient's condition continued about the same until September 7th, nine days after the injury, by which time the hæmatoma had become larger and the patient had become restless and irritable. A trephining operation was then performed, a pus-cavity was washed out, the depressed portion of bone raised and fragments removed; the finger was introduced as far as an inch and a half into the frontal lobe of the brain, where the pus-cavity had existed. The cavity was washed out with Thiersch's solution, and iodoform gauze dressing applied. The patient after some days had completely recovered, and, so far as could be observed, had regained her normal mental state.

DR. R. F. WEIR congratulated Dr. Gallaudet on the success of these two cases. He referred to a recent article by Dr. Agnew, in which were reported about ten cases of brain abscess which had occurred in Philadelphia, eight of them being of traumatic origin, and in only one had success followed an operation. Before reading this article he felt some diffidence about reporting the results of his own operations in this class of cases. Now, however, he felt encouraged to say that he had operated altogether eight times for cerebral suppuration. In four of these cases the cerebral abscess was of traumatic origin. One patient out of two operated upon recovered, the other died.

Aortic Aneurism Treated by Macewen's Method.—DR. R. F. WEIR related a case of this kind. It will be remembered that Macewen had reported three cases of aneurism (two of the aorta, one probably of the subclavian artery) which he had treated by irritation of the walls of the sac by the point of a long needle, and also by leaving the needle-point within the sac twenty-four to forty-eight hours, with the idea that the walls of the aneurism might thus be more thoroughly roughened. Macewen's observations had shown that the white thrombus that was de-

posited was greatest where the irritation had been most thoroughly applied.

The case in which Dr. Weir had practised this method was one of aneurism of the ascending portion of the aorta, occurring in St. Luke's Hospital. The aneurismal tumor had produced a bulging of the sternum in the region of the second rib. The above-described method of treatment was applied three times, at intervals of five to seven days. On only one occasion he left the needle in, then for three hours. He then went away for the summer, and instructed the patient to submit to a further treatment at the hands of another surgeon, should no benefit follow. This he failed to do, and about two months afterward the tumor ruptured and caused death.

At the autopsy there was no other clot present than the post-mortem clot. The case, therefore, had given negative results.

DR. J. D. BRYANT had made use of Macewen's method on a patient who had a large aneurism of the external iliac. The patient was subjected to two or three treatments, two needles on two occasions being left in the sac for twenty-four hours. Within a week after the second sitting the bruit had entirely disappeared, and never afterward returned. Within a week the tumor began to increase in density and the extensive pulsations peculiar to aneurismal growths disappeared, but the sac had grown in size, and he had not yet made up his mind to repeat the treatment again.

A Case of Sacral Hysterectomy.—DR. KAMMERER read a paper and reported a case. (See p. 207).

DR. LANGE said the same rules mentioned in the paper had guided him in the cases in which he had resorted to sacral hysterectomy, the entire number being three, two of them being of cancerous nature, the other a multilocular interligamentous tumor of the right ovary and extensive syphilitic disease of the rectum. In all the result had been favorable, and he had been struck with the ready access which the method gave to the pelvic floor. It was a great aid in enabling one to distinguish the ureters and other parts, and to apply ligatures, etc. The whole operation became one simply of shelling out the diseased parts and tying the vessels, as one would do in disease of quite accessible parts of the body. He thought that to apply an iodoform dressing to such a large surface would be dangerous. He had seen in other cases disagreeable complications from iodoform absorption. One of his cancer cases had been operated upon two years before, and, as far as he could determine, there had been no recurrence of the disease. The other patient, operated upon a year ago for cancer, had not been seen since she left the hospital.

DR. BOLDT thought there could be no question of the ready access which this operation gave to the pelvic contents, but the two points deserving of special consideration were whether the method did not enhance the immediate dangers, and whether in the class of cases in which it was considered specially applicable, the disease was not so far advanced that it must fail to lengthen life to any notable extent.

DR. A. F. CURRIER thought there might be cases calling for the Kraske operation in removal of the uterus, but it was his opinion that the number must be very small. He would supplement it by the actual cautery.

DR. EDEBOHLS had resorted to this method in one case of cancer of the rectum and vagina. He would draw the line as between this operation and vaginal hysterectomy aided by an abdominal incision at the posterior cul-de-sac. What lay posterior to the cul-de-sac might best be removed by Kraske's operation, while what lay anterior thereto might be removed by the vagina, or laparotomy, or the two combined.

DR. KAMMERER, in closing, took exception to the statement made by Dr. Boldt, that cancerous uteri which could not be removed through the vagina should not be operated upon, because the extent of the disease was such that an early return might confidently be expected. He thought statistics of the Kraske method might, when sufficient time should have elapsed, give other proof.

Therapeutic Hints.

The Treatment of Tapeworm. — We have received several communications relative to the best means for the expulsion of tapeworm, of which the following is a summary. Dr. W. H. Stroup, of Spencer, O, regards chloroform as the best remedy. He prescribes half a drachm in some bland vehicle, followed in half an hour by—

℞. Ol. tiglii ..... gtt. iv.
Ol. ricini,
Glycerine, ... āā ʒ iv.
Aq. destill..... ..... ad. ʒ xvi.
M. Sig.: Two teaspoonfuls every three hours until the worm is expelled.

Most of the writers prefer pomegranates, prepared by boiling four ounces of the bark of the root for half an hour in a pint of water, strain, and drink in the morning, fasting, following it two hours later with two ounces of castor-oil. Another method is to take one-half ounce of Epsom salts at bedtime; in the morning no food or drink, but five grains of calomel, followed in ten minutes by four eight fluid ounces of decoction of pomegranate. If the worm is partially expelled copious enemata of salt water should be given. Nausea is relieved by lemon-juice.

Sore Throat.—A gargle of hot claret often affords much relief in cases of acute catarrhal pharyngitis. When the inflammation is rheumatic in character, extract of phytolacca (poke-root), in doses of two to four grains, has been recommended. In the same condition a spray of the following is useful:

℞. Morphinæ ..... gr. iv.
Ac. carbolici,
Ac. tannici..... āā ʒ ss.
Glycerini,
Aquæ dest..... āā ℥ iv.
M. Sig. : Use as a spray in the throat, about a teaspoonful at a time.

Insomnia of Alcoholism.—Krafft Ebing speaks very highly of methylol as a hypnotic in this condition. It is employed hypodermically in doses of fifteen minims of a ten per cent. aqueous solution, from one to three times in the twenty-four hours.

Tinea Versicolor.—The following has been used with good effect as an application in tinea versicolor:

℞. Sodii hyposulphitis..... ℥ ss.
Glycerini..... ʒ ij.
Aquæ .....q.s. ad ℥ vi.
M. Sig.: For external use.

Deafness.—In deafness resulting from dry catarrh of the middle ear, Dr. C. Miot has seen good results from the instillation of liquid vaseline. He has never seen this method produce new-growths of the tympanum, as is feared by some authorities.—*Gazzetta degli Ospitali*, No. 39, 1891.

Tonsillitis.—Much relief is said to be often obtained by a gargle containing chloral, according to the following formula:

℞. Chloralis..... gr. xv.
Glycerini,
Aquæ..... āā ʒ jss.
M. Sig.: For use as a gargle.

Rodent Ulcer.—A twenty-five per cent. ointment of resorcin in vaseline is recommended in the treatment of this affection.

Hiccough. — Ewald recommends pilocarpine in the treatment of obstinate singultus.

Ichthyol in Erysipelas.—Dr. Julius Fessler, of Munich, claims to have had excellent results in the treatment of erysipelas by means of ichthyol internally and externally employed. It is, he says, inimical to the life of the streptococcus, thereby curing the disease in a few days.

Dermatol and Iodoform.—Dr. Gläser holds (*Centralblatt für Chirurgie*, No. 40, 1891) that dermatol is not in any sense a substitute for iodoform, as it diminishes secretion while the latter excites it. He thinks dermatol may be profitably employed in the case of aseptic (operative) wounds, infected wounds being best dressed with iodoform.

Acetate of Lead in Pneumonia.—M. Marquez claims to have had great success in the treatment of pneumonia by means of acetate of lead. The remedy is, he thinks, particularly efficacious in cases in which there is a tubercular tendency.

Dandruff.—The following pomade is recommended in the treatment of dandruff:

℞. Acidi salicylici ..... ʒ ss.
Sodii boratis ..... gr. xv.
Bals. peruviani ..... ♏ xxiv.
Ol. anisi ..... ♏ v.
Ol. bergamot ..... ♏ xv.
Vaselini ..... ʒ iij.
M. et ft. unguentum.

Toothache.—

℞. Acidi arseniosi,
Cocainæ hydrochl ..... āā gr. xv.
Mentholi ..... gr. iv.
Glycerini ..... ʒ ij.
M. Sig.: A few drops on a pledget of cotton to be inserted into the cavity of an aching tooth.

Catheterization of the Female Bladder.—Professor Parvin advocates the use of the ordinary male catheter, instead of the female, as by its greater length the bladder can be emptied without soiling the clothes or necessitating any exposure of the patient. It is passed into the bladder just as easily as the other kind.—*College and Clinical Record.*

Treatment of Diphtheria.—Dr. William Titus, of Newark, N. J., has had much success in the treatment of diphtheria by means of the following:

℞. Potassii chloratis ..... ʒ ss.
Tr. cardamomi comp. ..... ʒ ij.
Aq. destillatæ ..... ʒ iij.
M. Sig.: A teaspoonful every half-hour for six doses, then every two hours, in a severe case in a child from six to twelve months of age.

In addition the following spray is used:

℞. Zinci sulph ..... gr. vj.
Ac. salicyl ..... gr. xx.
Glycerini,
Aq. destillatæ ..... āā ʒ j.
M. Sig.: A teaspoonful in two tablespoonfuls of hot water to be sprayed by a hand atomizer every two hours, or oftener if necessary.

This mode of treatment, Dr. Titus says, can do no harm in a case of ordinary ulcerated sore throat, and is very efficacious in genuine diphtheria. Since using it he has not lost a case of diphtheria, although before that his results had been no better than the average.

Atropine in Lead Colic.—Dr. F. Rowland Humphreys reports in *The Lancet* for November 21, 1891, a number of cases of lead-poisoning treated successfully with sulphate of atropine and iodide of potassium. The author concludes that in lead poisoning atropine in full doses, 1, relieves the colic and the pain in the head in the most rapid manner; 2, it keeps the bowels freely open; 3, it assists in the return of the bodily powers; 4, it assists, directly or indirectly, in the removal of the lead by iodide of potassium.

Diphtheria.—Dr. C. Smith, of Casterton, Victoria, writing in the *Australian Medical Journal*, No. 10, 1891, says that he has had great success in the treatment of diphtheria by continuous inhalation of a mixture of one part each of carbolic acid and oil of eucalyptus in eight parts of turpentine. The patient is confined to the bed and clothes wrung out of this mixture are placed and hung about the head of the bed, so the neighborhood is saturated with the fumes. Care must be taken that the mixture does not touch the face, on account of its irritant properties. Internally stimulants, tincture of digitalis, tincture of belladonna, and aromatic spirit of ammonia are given.

Treatment of Erysipelas.—Dr. Trapetsnikoff has been very successful in the treatment of erysipelas by local applications of a mixture of one part of carbolic acid in fifteen parts of turpentine. Cloths dipped in this mixture are applied to the diseased part, being renewed every hour.—*Russkaya Meditsina*, No. 14, 1891.

Burns.—The following treatment of burns is said to be very beneficial. Blisters are not opened, but are pierced with a silk thread soaked in sublimate solution and left in place. The whole burned area is then spread with a ten per cent. iodoform vaseline, and is covered with gummed paper or silk. The salve should be renewed daily. By this plan pain is relieved at once and cicatricial contraction is rare.—*Western Medical Reporter.*

Local Anæsthesia.—Dr. Struver recommends a spray of the following solution as an efficient local anæsthetic:

℞. Cocainæ hydrochloratis ..... ʒ j.
Antipyrini ..... ʒ iij.
Aq. destillatæ ..... ʒ ij.
M. Sig.: For local use.

Pruritis.—Dr. Brubaker recommends the use of the following preparation for pruritus:

℞. Acidi hydrocyanici diluti ..... f ʒ ij.
Sodii boratis ..... ʒ j.
Aquæ rosæ ..... f ʒ viij.
M. Sig.: Use as a lotion.

—*Medical and Surgical Reporter.*

Phthiriasis Pubis.—Dr. T. R. Riddle writes, in the *Medical Brief*, that one thorough application of softened tallow will effectually kill pediculi pubis, together with the nits. A few hours after using, the sufferer must wash with warm soap-suds and be clean.

Bed-sores.—Dr. Keen says that an excellent treatment for bed-sores is the alternate application of cold and hot poultices. Apply a cold flaxseed poultice in which have been placed small pieces of cracked ice; let this remain for ten minutes, and then apply a hot flaxseed poultice. After two hours apply another cold poultice and then another hot one.—*College and Clinical Record.*

Constipation.—Dr. A. E. Nevins has had good results in chronic constipation from the use of Dover's powder. In such cases, he claims, there is a condition of irritation of the large intestine, which the opium allays, but which is only aggravated by cathartics.

Corns are often cured by means of the following application:

℞. Acidi salicylici ..... ʒ ss.
Ext. cannabis indicæ ..... gr. x.
Collodii flexilis ..... ʒ j.
M. Sig.: To be applied to the callous part by means of a brush two or three times a day.

Acid Dyspepsia.—The following often affords relief in cases of persistent sour stomach:

℞. Sodii salicyl ..... ʒ j.
Spt. vini gall ..... ʒ ij.
Solve et adde,
Syr. aurant. cort ..... ʒ j.
Vini albi fort ..... ʒ iij.
M. Sig.: One tablespoonful before meals.

Scaly Eczema of the Scalp.—

℞. Acidi borici ..... ʒ iij.
Bals. peruviani ..... gtt. xv.
Vaselini ..... ʒ ij.
M. et ft. pomatum. Sig.: For external use.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE INFLUENZA EPIDEMIC—THE COMPARATIVE MORTALITY IN INFLUENZA AND CHOLERA EPIDEMICS—RECENT RESEARCHES IN DIABETES MELLITUS—THE COLLEGE OF SURGEONS AND ITS MEMBERS—DEATHS OF SIR OSCAR CLAYTON AND DR. ALFRED CARPENTER.

LONDON, January 30, 1892.

THE influenza epidemic shows no signs of abating as yet. Last week the number of deaths in London primarily due to it rose to 506, and in 86 cases it was registered as a secondary cause of death; the mortality was, therefore, nearly double that of the previous week. The mortality from other diseases of the respiratory organs also showed a further increase last week—the number of deaths from these diseases registered in London last week being more than double the average. In many of the provincial towns there is a similar increase in the death-rate. There are, however, two sides to the shield, and in view of the fact that many pessimists have lately been declaring that the influenza epidemic is worse than a cholera visitation, it is consoling to refer to the recorded statistics on the subject. From these it appears that in 1849 the number of deaths from cholera in the metropolis was fourteen thousand odd; in 1890 the total number of deaths from influenza in the whole country was only 4,523 (only 614 of these in London). Compared with cholera, influenza must, therefore, clearly take a back seat. The mortality from it at the present moment is undoubtedly phenomenal, but it is not to be expected that it will continue at the present rate for many weeks. A reference to the published returns of the Registrar-General also brings out very clearly the fact that it is no new thing for influenza to prove fatal, for some deaths from it have been registered every year for the last fifty years and more—even in the absence of any special epidemic. The highest recorded mortality was in 1848, when 7,963 persons died from it in England and Wales. In 1849 the deaths fell to 1,618, and since then—with the exception of the years 1851 and 1855, when the deaths rose to 2,152 and 3,568 respectively—the mortality has been steadily declining, until it was rekindled by the three recent epidemics.

At the last meeting of the Royal Medical and Chirurgical Society, Dr. H. J. Tylden read a paper on "Recent Researches in Diabetes Mellitus." He first discussed M. Lépine's work on the glycolytic ferment of the blood. Granting the existence of this ferment in the blood drawn from animals, the question was whether it was a vital phenomenon? There were grounds for supposing that it was, but the point could not be regarded as settled. Was the diminution of this ferment in diabetes the cause of the disease? The objections to this theory were, firstly, that probably all ferments were reduced in wasting diseases, and, secondly, that clinical facts warranted the supposition that diabetes was due not so much to failure of sugar destruction as to increase of sugar production in the system. Dr. Tylden then discussed some recent experiments on the pancreas. Extirpation of the gland was immediately followed by diabetes mellitus. Partial extirpation of the pancreas, injection of the pancreatic duct with irritants, and tying the pancreatic vessels, all failed to produce permanent glycosuria, but led to cirrhosis of the pancreas, and were followed by azoturia, polyuria, and wasting. Was the glycosuria which followed upon complete extirpation of the pancreas a result of such extirpation or of some lesion incidental to the operation? The author thought the latter was more likely to be the case. Passing on to the consideration of the morbid histology of the pancreas, he said that cirrhotic changes had been demonstrated in diabetic pancreases, but before they could be accepted as the cause of the disease, the following questions must be answered: 1. Was the lesion constant in diabetes? It certainly was not, some diabetic pancreases showing no departure from the normal on histological examination. 2. Was the lesion confined to diabetes, or had it wider relations with sundry other diseases? A microscopical examination of some fifty pancreases led to the recognition of at least two forms of cirrhosis—the one coarse and interlobular, often seen in very wasted pancreases; the other, finer and intercellular, in pancreases not necessarily wasted. The latter form was chiefly found in patients with granular kidney. The pancreatic changes might possibly throw light in some cases of chronic Bright's disease upon some of the symptoms of the disease, especially when it was remembered that polyuria and wasting were two of the results of artificial cirrhosis of the pancreas. 3. Assuming the first two points, was there any reason to suppose that cirrhosis of the pancreas would, even if present, provoke glycosuria? So far as was known there was not; experimental evidence went to prove the contrary. As none of the questions could be answered in the affirmative, neither the pancreatic hypothesis of diabetes nor M. Lépine's form of it could be accepted.

Dr. George Harley mentioned that as long ago as 1788 a case in this country was described as pancreatic diabetes by Dr. Thomas Cawley. It was not, however, until the last two years that the researches of experimental pathologists had made manifest the importance of the pancreas in connection with diabetes. Dr. Harley said he considered that diabetes was only a sign of several different conditions, as albuminuria was. If extirpation of the pancreas caused diabetes, he could not understand why ligature of the pancreatic vessels should not produce the same results. Experiments performed abroad on dogs showed that the glycosuria resulting from removal of the pancreas could not be due to the damage to the tissues around the pancreas during operation. He did not agree with Dr. Tylden that Lépine's theory should be rejected.

Dr. Rolleston said he did not think pancreatic changes could primarily cause diabetes for two reasons, viz. (1): Although the pancreatic duct were blocked entirely yet no diabetes need occur, and (2) in some cases of diabetes mellitus the pancreas was found to be quite healthy after death.

Dr. Bradford described Minskowki's experiments, in which, after removing seven-eighths of the pancreas, no glycosuria occurred; on removing the remainder in the same animal, glycosuria immediately supervened and remained. In a case in which there was diabetes with ascites, a primary growth was found in the pancreas after death; in another case, that of a fine man who had died of diabetic coma, a pancreas weighing under an ounce was found after death.

Dr. Tylden then replied and said he agreed with Dr. Harley that diabetes should be considered as a symptom rather than as a disease. Though it could not be established that sclerosis of the pancreas was always present in diabetes, yet it would not be fair to conclude that sclerosis never produced diabetes. When he had stated that ligature of the pancreatic vessels did not produce diabetes, though extirpation of the organ did, he was simply mentioning facts, difficult though they might be to understand. He had not rejected Lépine's theory, though he could not at present accept it.

The law's delays are notorious, but after pending for some considerable time the case of Steele *vs.* Savory, involving the right of members of the College of Surgeons to meet in the college building, has been decided. The plaintiffs have lost the case on every point of law raised. After hearing their counsel, the judge dismissed their action with costs without calling upon the defendant's counsel at all. He said, that though to the lay mind there might appear to be something in the case, to the legal mind there was nothing. Under the existing charter members of the college had no rights. It is suggested that an appeal may be lodged and the matter

taken to a higher court. It is also proposed to endeavor to get an act of Parliament passed giving members a share in the government of their college. I heard in conversation yesterday a much more summary remedy suggested for the existing state of things, viz., that all members of the college (nearly every practitioner in England and Wales is a member) should refuse to meet in consultation members of the council of the college until they are admitted to some share in the management of the college. Were this done, no doubt some impression would be produced, to say the least, but there is, of course, no likelihood of any such procedure being adopted. The bulk of the profession in fact take but little interest in medical politics, and of those who do, few would care to take such an extreme course as that indicated above.

The deaths of Sir Oscar Clayton and of Dr. Alfred Carpenter are announced. Sir Oscar Clayton was surgeon in ordinary to both the Prince of Wales and the Duke of Edinburgh, and for many years past enjoyed a large practice among the "upper ten." Dr. Alfred Carpenter was chiefly known as a sanitarian. He was an ardent advocate for sewage farms. He was also an earnest temperance advocate, and for many years held important offices in the British Medical Association.

THE TREATMENT OF GRIP.

To the Editor of the Medical Record.

Sir: You published a note of mine giving a succinct statement of the treatment of grip, in which it was asserted that, as in yellow fever, the use of a mercurial purge was essential at the beginning of the attack. A few grains of calomel were recommended to be associated with rhubarb, magnesia, and ipecacuanha, which prevented the necessity of a subsequent dose of oil or salts, and that this invariably broke the force of the disease. To diminish the accompanying fever a fever mixture was advised composed of the sweet spirits of nitre, acetate of potash, spirit of mindererus, with a few drops of tincture of aconite to each dose. Wine and quinine, in tonic doses, were also advised to be given early in the disease on account of the prostration which ensues. If cough becomes troublesome, on account of the engorgement of the lungs, and broncho pneumonia is threatened, syrup of senega or wine of antimony is added, with the application of mustard poultices, turpentine, etc.

Phenacetine, phospho- or bromo-caffeine, which also diminish fever, or other such agents, are required to relieve the pain and nervous disturbance which often accompany the attacks; but these will all be diminished when the purgative produces a medicinal effect.

As the great majority of cases of this disease, on its two visitations, recover as ordinarily managed, it would be presumptuous in me to suggest a method; yet, as many in every city, including some of the most prominent of our citizens, die, I am induced again to urge the importance of the practice cited above, with the hope that it will be fully tested. During the present prevalence of the disease, as before, I have never visited anyone more than four days.

An initial mercurial purge is seldom amiss in the beginning of most diseases ushered in by fever and its usual attendant, costiveness, and the physician has frequently to regret its omission. Essential in yellow fever, I believe that it is equally so in grip, which, though less fatal, is an analogous affection. Quinine also is beneficial in both diseases.

Respectfully,

F. Peyre Porcher, M.D.

Charleston, S. C.

Arms and Legs.—A dealer in artificial limbs says that an arm will last a lifetime if properly cared for, but that after five or six years a leg gives way to the weight and strain, and has to be renewed.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 13, 1892.

	Cases.	Deaths.
Typhus fever	69	0
Typhoid fever	7	6
Scarlet fever	213	30
Cerebro-spinal meningitis	1	3
Measles	176	9
Diphtheria	121	27
Small-pox	7	1
Varicella	18	0
Pertussis	0	4
Erysipelas	3	0
Leprosy	0	0
Mumps	0	0

Public Letters of Approvement.—The proprietors of a newly-discovered mineral water on the continent of Europe have been sending around circulars in the style of "English as She is Spoke," containing among others the following "letters of approvement:"

"It gives me great pleasure to inform you that I tried your famous mineral water on my own person and attained the most remarkable results by using it against the severe gout from which I suffered for years. Now, after having taken it for some time, I can assure you that I enjoy already a great recovery. I found also the water acting very successfully in cases of catarrh of the urinal bladder."

"In reply to your inquiry of the 7th inst., I gladly inform you that the mineral water, which has been prescribed to me by Professor M. Benedikt, M.D., of Vienna, gave eminent proves of its efficacy, against the gout and complaints of the urinal bladder from which I suffered (already after the use of only two doz. of bottles), so that I can say that it highly surpasses every other medicament which I used before. I communicate to you this very favourable result with great pleasure and out of full convincement."

"In reply to your kind lines of the 30th of past month, I am glad to inform you that after having been drinking the water during several weeks, the chronic rheumatism as well as the catarrh of the stomach and intestines seem to be entirely elevated. In consequence of the above said, I can give but the highest testimonial to your mineral water, which you may make use off and publish as you find best."

Vital Statistics of New York City.—The population of this city on July 1, 1891, according to the estimate of the Board of Health, was 1,680,796; that on July 1, 1890, 1,631,232. The number of marriages reported in 1891 was 15,764, as against 14,992 in 1890. The number of births was 46,804, as against 39,250 reported in 1890; of deaths, 43,634, 18,225 being of children under five years of age, the number in 1890 having been 40,230. The death-rate of New York was 25.96 in 1891; in 1890 it was 24.66. The principal causes of death were: Pneumonia, 5,817; consumption, 5,160; diarrhœal diseases, 3,585; Bright's disease, 2,503; heart diseases, 2,287; violence, 1,957; bronchitis, 1,834; diphtheria, 1.363; scarlet fever, 1,221; influenza, 858. Three cases of leprosy were reported; 201 unknown dead were removed to the Morgue, and of these, 92 were subsequently identified; 132 people were reported to the police as missing, but all except 8 were found; 192 persons were arrested for attempted suicide.

Quinine Pills.—A young physician in St. Louis had his faith in quinine seriously disturbed the other day, until he discovered that the three-grain sugar-coated pills he had been taking every half-hour were recently prepared compound cathartic pills.

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Original Articles.

RECURRENCE OF CARCINOMA OF THE BREAST.

BY FREDERIC S. DENNIS, M.D.,

NEW YORK.

IN a study of the cases of recurrent carcinoma of the breast, only those will be considered in which a thorough microscopical examination of the tumor has been made. All other cases will be excluded as worthless, because a large number of benign as well as malignant tumors of the breast have been grouped under the general class of carcinoma. For these reasons, as well as from the absence of a scientific diagnosis of the many different tumors affecting the breast, our knowledge of the recurrence of carcinoma in this organ is vague and untrustworthy. An attempt will be made to collect cases of recurrent carcinoma, utilizing only those, however, about which an authoritative statement can be made.

The points at issue in this paper are not the relative frequency of carcinoma of the breast, or the proportion in which this disease exists in the sexes, or the conditions under which this neoplasm primarily develops, or the etiology of the growth. In other words, all the various subjects connected with carcinoma of the breast and collateral with it are not included in our discussion to-day. The title of our paper restricts us to one of the multifarious subjects incident to this disease. Possibly many of us may live to see the day when the bacteriological origin of carcinoma will be established, and it is to be hoped that this great discovery will be accompanied by an infallible remedy.

The length of time that a patient may enjoy immunity from this disease after removal of the breast is a problem of overwhelming interest not only to the sufferer but also to the surgeon.

The necessity of an investigation of carcinoma of the breast can be estimated when it is considered that in England alone there are seven thousand deaths annually from carcinoma, and that there are thirty thousand patients suffering at all times in that country from this affection, of which number a large proportion involve the breast. When it is considered that fifty per cent. of the cases of carcinoma of the breast die within three years, and that one-third die within two years, and that of all the tumors affecting the breast eighty per cent. consist of carcinoma, some idea can be formed of the paramount importance of our theme to-day.

The mere fact that carcinoma causes more deaths in the United States in one year than the sum-total of deaths due to erysipelas, tetanus, hydrophobia, lightning, typhlitis, gunshot wounds, joint disease, together with other well-known surgical affections, conveys at once an idea of the wide dimensions of our subject. When we learn that carcinoma causes nearly half as many deaths in one year in the United States as are caused by accidents and injuries of all kinds and descriptions, the importance of our subject is imperatively forced upon us.

For example, in the United States, in one year, there were over thirteen thousand deaths from carcinoma, of which there were twice as many deaths among females as among males. There are over fourteen thousand people in the United States dying each year from carcinoma. There were one thousand three hundred and eighty seven cases of death from carcinoma of the breast alone in this country during the year 1880.

In order to facilitate the discussion of the subject of recurrence of carcinoma of the breast, it is necessary to collect the entire group of cases, and then to deduct those cases from the whole number in which there has been a recurrence. This will furnish us with an approximate estimate of the number of cases in which a return of carcinoma occurs. I have carefully collected cases supplied by the different writers upon carcinoma of the breast, and the result of my work demonstrates the fact that for our purpose a fairly uniform agreement is found as to the relative frequency of return of carcinoma of the breast after surgical interference. The cases of recurrence amount to about seventy-five per cent. of those collected. I have not included my own cases in this list, because I shall take them up subsequently as a separate class, and subject each case to a critical analysis in the light of the clinical history of the patient and the anatomical character of the tumor.

To-day we have nothing to do with the twenty-five per cent. ending in permanent recovery. The fact that one-fourth of the cases never recur, points logically to the conclusion that in the other three-fourths of the cases there is either some defect in the operative technique, or there is an unreasonable delay in arriving at a positive diagnosis, or there is a great diversity in the histological formation of the carcinoma.

It is to an inquiry into the causes of recurrence in the seventy-five per cent. of the cases of carcinoma of the breast following excision of the gland that attention is now directed.

Early and complete removal of the growth relieves the local disease; but the operation does not remove the predisposition or susceptibility or the capability for the recurrence of the disease. It is possible that the capability is limited to a certain extent, but to what extent no one can judge from the study of the life-history of the growth.

One of the most striking illustrations of this fact occurred in the case of a lady who was a patient of Dr. William Pierson, of Orange, N. J. This patient had a carcinoma of the breast removed in 1855, by Dr. Hosack, and the tumor was examined by the late Professor Alonzo Clark, whose knowledge of the technique of the microscope no one would question. Over a third of a century after the removal of the breast, the patient suffered from epithelioma of the rectum, from which disease she died. This is a valuable case for reference, because the microscopical examination was made at the time of the operation, and at a period in the history of medicine when the microscope had not been employed to any extent for such purposes.

I have used the three years' limit as a standard of time representing a permanent cure, because all writers upon malignant disease accept this period of time for the purpose of establishing some fixed rules in regard to the recurrence of malignant disease. I am well aware that carcinoma of the breast returns even when a patient has enjoyed an immunity for over three years. These cases are, however, rare, as they amount to scarcely two per cent. at present, and in order to establish some views in regard to the curability of carcinoma of the breast, it is obvious that some fixed period must be adopted from which as a basis to argue. The case of Dr. Pierson il-

lustrates the fact that for our purpose three years' limit answers as well as twenty-five years.

The recurrence of carcinoma of the breast is influenced, *first*, by the period of time from the appearance of the growth to the date of the operation. I have searched very carefully through the literature of the subject to ascertain, if possible, to what extent the duration of the disease before operation influenced the question of recurrence. Statistics furnish us with no accurate data upon this point. In a study of my own cases bearing upon this subject I have found that in all the cases in group "A," which class represents a permanent cure for three years or more, that the tumors were removed on an average of six months from the date of their first recognition in the breast. It is also an interesting clinical fact that, in nearly all the cases of permanent cure, the axillary glands were not invaded, or at least there was no microscopical proof of an invasion.

In all probability, within six months from the date of the first appearance of the induration in the breast in the cases belonging to group "A," the axillary glands were not infected; at all events the microscopical examination of the glands failed to show any changes. That it is possible for the glands to become infected within this period of time is well established. In other words, the earlier the disease can be detected, the better the prognosis as regards any recurrence, and that in a large majority of the cases the disease can be diagnosticated at a time before glandular infection has taken place; and that, if the tumor can be removed within six months from its incipiency, and the axillary glands and fatty tissues be dissected out, and likewise the pectoral fascia, the perimammary fat and para-mammary areolar tissue, the prognosis will yield brilliant results not heretofore realized.

The recurrence of carcinoma of the breast is influenced, *second*, by the extent to which infiltration has taken place by any one or all of the three well-recognized ways of dissemination. When the tumor has existed long enough to show evidence of glandular enlargement, or integumentary infiltration, or metastatic deposit, the disease has been present for some time. If the breast and its adjacent structures are removed with the axillary glands and fatty tissue in the axilla, there is still a prospect of success; but if metastatic deposits have occurred in the distant visceral organs there is hardly a tangible hope for recovery.

In regard to the first two ways of infection, if the area is circumscribed the radical operation may be successful; but if the case had become infected by the third way of dissemination, there is no opportunity offered by any surgical operation to save the patient. If, on the other hand, the infection has spread by the third way, which is by metastasis, there is no hope for a cure. It is a clinical fact worthy of attention, that of the cases in which secondary infection from the breast has occurred, nearly ninety per cent. of them invade the axilla, or, in other words, the disease has disseminated in nearly every case by a way that is amenable to treatment by surgical operation, if taken in time. It is also a clinical fact of a startling character that, in cases where metastases have occurred, nearly fifty per cent. involve the lung or pleura; and it can be demonstrated that in the majority of cases the axillary involvement antedates the lung and pleura infection by several months, which points logically to an important fact, that excision of the axillary glands, with the fat in the axilla, is an imperative step in the operative technique with a view to avoid recurrence of the growth after removal. In one case in group "B," a most extensive and dangerous dissection was necessary, and this patient has as yet no evidence of return. The glands deep in the axilla and those glands beneath the clavicle were all involved.

Surgical interference can prevent recurrence because in ninety per cent. of the cases the return of the disease can be combated, or even be prevented, by removal of the axillary glands and fatty tissue in addition to the complete removal of the breast.

The recurrence of carcinoma of the breast is influenced, *third*, by the radical character of the operation itself.

No Procrustean rule can be laid down, in regard to the extent or character of the operation for the removal of carcinoma of the breast, which would meet the exigencies in every case. A radical operation in one case would be an unjustifiable one in another case. For example, in one patient upon whom I operated it was necessary, besides removing the breast and all its subjacent tissue, and the axillary glands and fat, the pectoral fascia, and the pectoral muscle, to excise the ribs, the removal of which exposes to view the pleural cavity. The ribs were involved in the carcinomatous infiltration, and were thin and eroded through the malignant ulcerative process. This is the first case I can find where the ribs were involved, and where in the course of the operation it became necessary to excise them.

The radical character of this operation would be no index to guide the surgeon in another case, and consequently a radical operation must be performed with certain limitations suited to the special case. There is, however, a standard operation which is none too severe to meet the necessary conditions in every case. The uniform classical operation should include the entire breast gland, all the fatty areolar connective tissue in the vicinity, the integument over the circumscribed area of the tumor and as much more as is necessary, leaving out of consideration altogether the question of flaps to cover the wound, and finally, the pectoral fascia.

I am aware that surgeons will dissent from this severe method of operating just described, on the ground that they can refer to cases where a less serious operation had been performed and no return of the disease followed.

The question of mortality of the operation itself is one of importance, for it is obviously of no avail to remove completely a carcinoma of the breast and enucleate the axillary glands, and tear out the axillary loose fatty tissue, if the patient's life is to be sacrificed in the performance of the operation itself. Let us for a moment investigate this problem, for its solution will throw a flood of light upon the question of recurrence of the disease after operation. After a careful study of the published mortality of the operation, I am convinced that it is the result of this investigation that has made surgeons too conservative. I am aware that the death-rate of the operation is very high, and I cannot account for this excessive mortality. For example, a reference to the published reports made by surgeons reveals the fact that the mortality of amputation of the breast, including both the complete and incomplete operations, was, in Gross's cases, about ten per cent.; in Oldekop's cases, nine per cent.; in Sir Joseph Lister's cases, reported by Mr. Watson Cheyne, about eight per cent.; in Butlin's cases, seven per cent.; in Professor Billroth's clinic, about twenty-three per cent.; in Professor Fischer's clinic, twenty per cent.; in Professor Esmarch's clinic, about ten per cent.; in Professor Küster's clinic, about fourteen per cent. In another list of operations, published by Billroth, the mortality is about fifteen per cent. In a still later list of sixty-eight cases performed by Billroth, there is a death-rate of about six per cent. In my own list of cases of amputation of the breast the death-rate was 1.4 per cent. This is the lowest death-rate that has as yet ever been reported. If the one case of death which was due to continuous bleeding in a patient suffering from hæmophilia be excluded, as it can be with propriety, there is no mortality whatever connected with the operation in my series of seventy-one cases of amputation of the breast. I may add that in my list of seventy-one cases I have endeavored to perform the complete operation.

Before finishing this important part of our subject I cannot refrain from entering a strong protest against Mr. Butlin's views in regard to partial amputations of the breast in cases of carcinoma of the gland. I have been

deeply and profoundly impressed with a study of his book on malignant disease, but I cannot indorse his opinions in regard to incomplete operations upon the breast for carcinoma. I am a strong advocate of always removing, in every case to which there is no exception, the entire breast, with the pectoral fascia and the lymphatic glands, as the minimum operation in the most insignificant scirrhus.

The recurrences of the disease in my cases are much less frequent, and the mortality of the operation only 1.4 per cent., which is not more than would attend an amputation of the finger in pre-antiseptic days. In fact, there was no mortality if the case of hæmophilia be eliminated, since it had no special bearing on this operation.

The last reason that I would adduce to strengthen the argument that the operations should be more radical in order to prevent recurrences, is the report of Küster, who submitted to careful microscopical analysis the glands removed in 117 cases of carcinoma of the breast, and in only 2 cases out of the 117 did he fail to find unmistakable evidences of carcinomatous infiltration. No sounder argument could be advanced than one based upon this report, and it is thus evident that not only the breast must be removed, but also the axillary glands, in order to minimize the dangers of recurrence of the disease.

The radical operation removes cancerous cells that form the foci for recurrences. These cancer-cells may be found outside the limits of the breast gland, lodged in the adjacent mammary region, whence they have been carried by the lymphatic current. I have several times found cancerous masses upon and in and under the pectoral fascia, as well as in the neighboring muscles. These masses were examined microscopically and found to contain cancer-cells. Mere removal of the breast is inadequate to reach the entire disease. In order to secure immunity from the disease in every case, it is necessary to adopt a radical operation as routine treatment in all cases. In a most valuable paper by Heidenhain, presented at the meeting of the German Congress of Surgeons in Berlin, 1889, he pointed out the fact that the ligaments of the breast are often surrounded by projections of the parenchyma of the gland, and contain cancer-cells. This is true in regard to the so-named ligaments of Sir Astley Cooper, as well as those which are retro-mammary, and which bind the breast to the fascia. I have even found cancer-cells in the pectoral muscle, the adhesion of which to the posterior surface of the gland indicates the certain presence of cancerous emboli in the lymphatics of that muscle.

Gross was entirely right, some years ago, when he strongly urged the complete removal of the breast as a *sine qua non* to prevent recurrence. Mr. John Chiene even goes further than this, and takes a flap from the arm to cover the wound. The operation, in order to be radical, must be an extensive one.

The recurrence of carcinoma of the breast is influenced, *fourth*, by the histological character of the carcinoma itself. This cause of recurrence of carcinoma of the breast has received little, if any, attention by surgical writers. There has always been a general impression that the atrophic scirrhus, for example, was less malignant than the medullary carcinoma. The reasons for arriving at this conclusion have never been investigated from a purely histological and clinical point of view. I shall endeavor to demonstrate by a complete microscopical examination of my own cases, taken in connection with the clinical history extending over a period of three years, that the histological character of the tumor itself influences more than any other cause the recurrence of carcinoma of the breast. I shall also strive to prove that a reliable prognosis can be made from an examination of the nature of the histological elements which form the neoplasm. I have carefully prepared the clinical histories in each case, and then submitted each tumor for a complete microscopical examination. The result is that the tumors which show structures departing but slightly from the normal correspond in every case with the group of cases the clinical history of which is favorable, because no return of the carcinoma has occurred in any case belonging to that group. The tumors that showed a great departure from the normal structure corresponded to the unfavorable clinical histories. In other words, the microscopical report of the tumors corresponded precisely to the clinical histories. The more typical the structure, the better the prognosis; the more atypical the structure, the more unfavorable the prognosis. Arranging all the cases in four groups, and comparing the microscopical examination with the clinical histories, the recurrence and the non-recurrence of the disease in each case corresponded exactly.

The result of the histological examination, when compared with the clinical histories, in this series of cases, demonstrates that the more embryonic the structure of the tumor, the greater the liability of recurrence.

The history of epithelioma of the lip, as compared with epithelioma of the breast, forcibly illustrates this law. The reason is very apparent, as Mr. Heneage Gibbes has demonstrated when he shows by microscopical examination that the carcinomatous cells lie in contact with the stroma. It is inferred that by amœboid movement these cells pass into the interfascicular lymph-spaces, from whence the lymphatic capillaries carry the cells into the nearest gland. This explains the frequency of recurrence of carcinoma in the pectoral and axillary glands, and the metastases later on in the lungs and pleura. That recurrence takes place first in the neighboring glands is shown by the fact that, in 128 autopsies of patients dying from carcinoma of the breast, ninety per cent. of the cases had return of the disease in the axilla, and of the entire number forty-five per cent. involved the lung and pleura, and nearly forty-three per cent. involved the liver. Primary carcinoma of the axilla, of the lung, of the pleura, or of the liver, is so rare that it may be considered among the medical and surgical curiosities, whereas secondary carcinoma is extremely common.

The recurrence of carcinoma of the breast is influenced, *fifth*, by the appearance simultaneously of carcinoma in both breasts. Fortunately this condition only exists in about five per cent. of the cases.

The appearance of double carcinoma makes the prospect of recurrence greater, owing to the more extensive infiltration. In double carcinoma of the breast the secondary deposits are most likely to occur. These infiltrations and metastases are found very early in the history of the case.

The recurrence of carcinoma of the breast is influenced, *sixth*, by the personal factors of the individual, such as age, sex, marriage, fecundity, sterility, traumatism, heredity, menstruation, locality, race, nativity, etc.

In order to draw any conclusions from the personal factors as to recurrence of carcinoma after removal, it must be assumed that any laws which operate to develop carcinoma primarily have not entirely lost their influence in bringing about a recurrence. The capability is not always removed with the local infection. This view is in perfect harmony with the constitutional theory of carcinoma, and can be easily reconciled to the local theory of cancer—a theory in which I am a firm believer.

That carcinoma may be present in the body in more than one place at the same time, and a common cause independent of auto-infection underlying the malady, has been proven in many cases.

Age has an indirect influence upon recurrence or metastases, since it has a marked effect upon the primary growth. It has been demonstrated that eighty-two per cent. of the cases of primary carcinoma of the breast develop after the fortieth year, and that the average is the forty-eighth year. The tendency to the development of carcinoma of the breast is declining after sixty years; the conditions are also unfavorable for recurrence or me-

tastases. It is an interesting fact that the maximum frequency of carcinoma appears ten years earlier in the female. In other words, there seems to be less malignancy in carcinoma affecting the breast in the early stages of obsolescence of the gland than when the gland has fully completed its degenerative changes. Age, therefore, has marked influence in regard to recurrence, for the older the patient is, within certain limitations, the more malignant the carcinoma appears. The nearer the gland is to a healthy functional activity, the less likely is it to assume malignancy.

Sex has an indirect influence upon the recurrence of carcinoma of the breast, since the disease exists in the male in the proportion of one to every one hundred cases in the female. In my list there was only one case in the male sex, since metastases occur in over six per cent. of the cases of breast carcinoma in those organs in the female that are absent in the male, and metastases are seldom, if ever, found in the corresponding organs in the male. I have observed six additional cases of carcinoma of the breast in the male besides the one already mentioned.

Marriage, without doubt, has a direct influence upon primary carcinoma of the breast, since eighty per cent. of the cases are found among married women. This would leave twenty per cent. to represent the unmarried class. The same law, therefore, which operates to cause carcinoma in one breast incident to marriage, will not altogether lose its force in causing a further extension of the disease in the opposite breast, or by dissemination by the first way of infection in the cicatricial tissue. In my list of permanent cures all the patients, except one, were married.

Fecundity seems to affect the frequency of carcinoma of the breast. Mr. Thomas Bryant, in his excellent book upon "Carcinoma of the Breast," has pointed out the interesting clinical facts that seventy-four per cent. of the women were prolific, while only twenty-six per cent. were sterile.

In my list I find that all the married patients had children, except one. In other words, there was only one patient who was married and who was sterile. These patients, however, were not prolific to an extreme degree, as in Mr. Bryant's cases. The average was three children, instead of ten or more as in Mr. Bryant's cases.

Traumatism has a direct influence on the development of carcinoma of the breast in about thirteen per cent. of the cases, according to some writers. In the male, traumatism has been assigned as the cause in nearly fifty per cent. I am certain that if friction, irritation, and mechanical stretching of the scar after removal of the breast can be classed under the head of traumatism, that a very large proportion of the cases of recurrences are due to this cause, the prevention of which is possible in many cases.

If wearing unsuitable corsets can in any way be assigned as a cause to develop carcinoma in a woman in whom a predisposition exists, certainly this would be a most potent factor in the etiology of recurrence. A soft pad should always be worn in contact with cicatricial tissue following excision of the breast, in order to obviate one of the causes of recurrence of carcinoma.

The recurrence of the disease in the scar can be largely prevented by the exercise of care in instructing the patient how to treat the tissues thus formed after the removal of the breast. Some idea of the importance of mechanically protecting the scar, after removal of the breast, can be formed by the knowledge of the clinical facts, that recurrence of carcinoma of the breast occurs in "nearly every instance"—according to Butlin—"under or close to the scar." Von Winiwarter has also demonstrated that in Billroth's cases the recurrences originated in the scar-tissues. This idea impressed the late renowned Langenbeck to such an extent that I remembered his having suggested in his clinic the dressing of the wound with the patient's arm placed at right angles to the trunk, in order that the scar-tissue might form without contraction. Excision of an irritable scar will certainly remove a potent cause of recurrence of carcinoma after excision of the breast.

Mastitis accounts for nearly thirty per cent. of cases of carcinoma of the gland. If this irritation is sufficient to develop the disease in the breast of a patient in whom a predisposition exists, a comparable irritation, like a low grade of inflammation in young connective tissue, certainly would have a corresponding influence.

In one patient upon whom I have operated for carcinoma of the breast—in the case of the wife of a well-known physician—traumatism in the form of a fall where the patient struck her breast upon the edge of the bed, a carcinoma was developed in one gland, while the other breast, which had been previously the seat of mastitis leading to abscess-formation, escaped. In other words, in this case traumatism seemed to have been a more potent factor in causing carcinoma in a breast than a mastitis; for the breast exposed to traumatism developed carcinoma, while the breast which was the former seat of an abscess has shown no tendency to give rise to the disease, although the evidences of an old abscess are still apparent in the remaining breast. I have recently seen another case illustrating the rule that traumatism seems a more potent factor than mastitis in causing carcinoma of the breast.

In my list of cases studied with reference to this point, I find that mastitis is quite common; but I also find that in the most malignant group traumatism stands out as a most prominent etiological factor—more so than mastitis.

Heredity also may be assigned as a factor in developing secondary growth in twelve per cent. of the cases. A study of the cases of carcinoma of the breast will demonstrate the fact that a larger number of recurrences and metastases will be found in those cases of carcinoma of the breast in which an hereditary influence is present.

The locality of carcinoma has a marked influence upon the recurrence after its removal. Carcinoma is prevalent in the New England States, and on the Southern Pacific Coast, in the central part of Michigan, and the southern part of Wisconsin. Dr. Billings has pointed out the interesting fact that in "any given locality a large proportion of cancer indicates that the locality is healthful and a long-settled one, and has a large proportion of inhabitants of an advanced age," and that the higher the state of civilization, the greater the number of cases of carcinoma.

Race has a marked effect upon the development of carcinoma of the breast, and hence the law operates in regard to the recurrence, or metastases, or multiplicity of growths. There is a marked difference between the white and colored race, as regards carcinoma. For example, among the whites the proportion of deaths from carcinoma per 100,000 is about twenty per cent., and for the colored race about five per cent.

Carcinoma, irrespective of age, is more than twice as prevalent among the whites than the blacks. It is also a disease rarely found among the Indians, or the uncivilized inhabitants of the islands of the Pacific.

Nativity seems also to influence the development of carcinoma, and also the recurrence. The Germans are more liable to carcinoma than the Irish, and the Irish more than the native whites. Native-born Americans are less liable to the disease, with its recurrences or its metastases, than the Irish or the Germans.

The conclusion to which I have arrived from a careful study of these cases, in regard to the question of recurrence of carcinoma of the breast after removal, will be considered. In the first place, I have complete notes of one hundred and five cases of tumors of the female breast which have come under my personal care. I have in complete notes of many other unpublished cases that I have treated in addition to the one hundred and five; but, as the histories are so defective as regards the union

of the clinical history with the microscopical examination, I shall exclude them altogether in the summary.

In the one hundred and five cases of tumors of the breast never before published, there are thirty-four cases which must be eliminated, because among the one hundred and five cases there are specimens of adeno-fibromata, sarcomata, cystic tumors, galactoceles, syphilitic mastitis, and other varieties which do not belong to carcinoma. There are also a few cases of carcinoma of the breast in which the disease had extended so far as to render any operative interference unjustifiable, and also there are a few cases in which the patients themselves declined any operation. Deducting these cases from the total number, there are left seventy-one cases of amputation of the breast.

The cases of carcinoma of the breast I have arranged into four separate groups: In Group A are found cases in which the patients are permanently cured, or where the patients have reached the three years' standard of time without any evidences of return. In Group B are found cases in which the patients have not yet quite reached the three years' limit of time, and therefore, according to the standard mentioned, cannot be said to be permanently cured. In Group C are found cases in which the patients have been operated upon, and in whom a recurrence of the disease, in the scar or in the axillary glands, has taken place, followed by death. In Group D are found cases in which the patients have been operated upon, and in whom metastases have occurred in visceral organs, followed by death.

I have before me on the table the history of each case and a microscopical slide of the tumor, with a written opinion from one of the three well-known microscopists. I have also appended the names of the physicians who were present at each operation. The tumors are preserved in alcohol and are in my private collection of pathological specimens in the museum of the Carnegie Laboratory.

In regard to the operative cases, I have performed amputation of the breast seventy-one times, and in nearly every case opened the axilla and removed the glands. In this series of seventy-one consecutive cases one patient died from the immediate effects of the operation. This patient suffered from hæmophilia and bled to death, in spite of everything that could be done to prevent the constant hemorrhage. Including this case of death, the mortality of the operation is 1.4 per cent; excluding it, there is an unbroken series of seventy consecutive cases without a death. In addition to the reduction of the mortality from as high as twenty-three per cent., recorded by Billroth, to a cipher, it can be also said that there was no case of pyæmia, septicæmia, erysipelas, or abscess.

Besides the question of mortality, the question of permanent cures effected by the operation is one to which great interest is attached.

In the list of seventy one cases of amputation of the breast, a number must be eliminated in estimating the percentage of permanent cures. This is necessary, because some of the tumors were of other varieties of malignant disease, and while this would not affect the question of mortality in reference to the operation of amputation of the breast, it would affect materially the question of cures beyond three years in carcinoma.

In the thirty-three cases of pure carcinoma of the breast in which the clinical histories and the microscopical examinations are complete, there were eight permanent cures of over three years' limit of time. Deducting the two cases in which the histories are unknown, the result is over twenty five per cent. of permanent cures beyond the three years' limit of time.

It is fair to assume that in Group B, where the patients have not quite reached the three years' limit, that there will be some who in a very short time can be classed in Group A of permanent cures. This would bring the percentage of cures up to nearly thirty per cent., if not over thirty per cent.

Thus a study of my seventy-one consecutive cases demonstrates the fact that the mortality has been reduced from twenty-three per cent., as published by Billroth, to 1.4 per cent., or, if the case of hæmophilia be excluded, from twenty-three per cent. to zero.

The percentage of permanent cures from fifteen per cent., which is the best result, and published by Mr. Banks, to nearly double or thirty per cent.

Finally, I believe this great reduction in the mortality of the operation will have a marked effect upon the radical character of the operation in the future. As a natural sequence the percentage of permanent cures will be increased. I feel justified, in view of these facts, to prophesy that, with early and radical operations, the recurrence of carcinoma of the breast after removal of the gland will be, comparatively speaking, of less frequent occurrence. I feel confident that with the early recognition of the disease, and with complete operation, together with the improved methods in the technique, that amputation of the breast for carcinoma of that gland will yield results more brilliant and startling than the most sanguine surgeon could imagine.

The high death-rate in the operation has been largely due to causes which aseptic surgery can prevent, the frequent recurrences to causes due to delayed and incomplete operations. In some cases the returns are due to the character of the growth.

A new era is about to dawn in regard to this dark night of surgery, and patients who have hitherto been doomed to a certain death, can be in the future rescued by the application of fixed and well-established principles which have been either never understood or overlooked. Surgery will thus prolong life and mitigate suffering. It will even save life in cases of carcinoma of the breast, a disease which in the past has blighted so many homes, but in the future will be deprived of its malign influence through the advances made by scientific surgery.

ON THE USE OF CREOSOTE IN THE TREATMENT OF PULMONARY PHTHISIS.[1]

By BEVERLEY ROBINSON, M.D.,

NEW YORK.

Among the numerous remedies which have been praised during the last few years in the treatment of pulmonary phthisis none seems to be so useful as creosote. Moreover, none has acquired in its favor a larger number of competent and careful clinicians.

The information I have obtained as to its importance is not merely that taken from printed reports of cases, nor simply from hospital histories—which as regards the therapeutics of chronic disease are of necessity unreliable—but it is also the information afforded by the results which I have reached with patients in private practice. These latter cases are especially valuable because I have been able to watch them carefully in almost every particular, and because I have continued my observations of some of them during many months, or even years. Besides knowing the conditions which surrounded them I have been able at times to regulate them. For this reason complications have been infrequent and my conclusions are less open to criticism than they otherwise would be. Judged fairly in comparison with other drugs I have come to regard creosote as the most valuable medicinal agent we have at the present time for the treatment of pulmonary tuberculosis.

On many occasions, also, I have questioned my medical brethren closely, and I have been much gratified to find that almost invariably they speak of creosote in terms of like praise.

Despite the fact, therefore, that there is possibly nothing new to offer you, and although the literature of creosote may be more or less familiar, I believe a discussion

[1] Read before the Section of General Medicine, at the New York Academy of Medicine, November 17, 1891.

of the subject by the members of the Section of General Medicine of the Academy will be interesting and profitable. The reports of your proceedings are read with great interest, I believe, by nearly all American physicians of repute. I am sure, therefore, that whatever is thought of creosote by the members of this Society will forcibly influence the thought and action of medical men throughout the United States.

Recognizing this fact, I have requested your Secretary to accord me permission to open the discussion with a short statement of what I consider to be the essential points of the creosote treatment of pulmonary phthisis.

Some of you are aware that I presented a paper on "Creosote as a Remedy in Phthisis Pulmonalis" to the Association of American Physicians at their meeting held in Washington, September, 1888. This paper, unfortunately, was not read at the meeting owing to lack of time. Later it was published in the "Transactions of the Association," with the appended cases, and also in the January number of the *American Journal of the Medical Sciences* for 1889, without the cases. In this paper I showed how I was led to use creosote among the first in this country, how my faith in its virtues gradually increased, and upon what basis this faith was supported. I concluded from my own observations and those of numerous clinicians, mainly in Europe, that the curative effects of creosote in the treatment of phthisis pulmonalis are very notable and merit recognition. Indeed, I was almost inclined to be enthusiastic about the drug, had my zeal not been wisely tempered with the knowledge of what a long, obstinate, and dread disease we have to do with. To day I have just the same confidence in the utility of creosote that I had more than three years ago, and the faith which is in me has increased rather than diminished. With an additional and broader field of experience the results obtained have not become more doubtful. On the contrary, they have been confirmed and strengthened. What are these results?

First, as regards the general symptoms. They are nearly all benefited by the use of creosote. Some are not, however, benefited immediately, or always in the same measure. Again, there are some patients in whom, I confess, the benefit is slowly obtained and with certain drawbacks. There are very few, however, who do not experience marked relief in one or more ways from the use of creosote.

Cough is very soon much diminished in frequency and severity. This is, of course, more often true of phthisis at its first stage than it is of phthisis pulmonalis at its second and third stages. Nevertheless, even in the advanced stages of lung involvement, where cavities are already present, cough is decidedly ameliorated after some months of continuous treatment. The diminution of the cough is doubtless due to the local effects on lung-tissue produced by the remedy. What these are I will state later on.

Expectoration is diminished in quantity and changed in quality. Not infrequently, at the first stage, it disappears altogether after a few months of treatment. In the advanced stages it lessens in amount one-half or two-thirds on many occasions, and from yellow or green it may become grayish, or frothy and colorless.

Nutrition is notably aided by the use of creosote. This is shown by increase of weight, which may be of two to three pounds only, or in rare cases, of ten to twenty pounds. With increase of weight there is augmented strength and activity. The mind is less depressed and sluggish, the body is more easily incited to in-door or out-door exertion of any kind. Hence all the internal viscera—the liver, kidneys, bowels—not to speak of the lungs themselves, are functionally put in better form. Appetite for food returns, and patients who previous to treatment took very little nutriment are apt to eat with relish and pleasure at their regular meals. The digestive processes are certainly strengthened, and bowels which had been costive move with much regularity. The breathing becomes deeper, fuller, and more satisfactory. The patients appreciate and state it. The spirometer, under the doctor's eye, indicates it with unerring certainty. This latter affirmation is not a borrowed opinion, but the expression of my own observation. Night-sweats often disappear while the treatment is carried on, and those who have previously suffered from them are astonished that they no longer appear. The temperature record is often favorably influenced by the treatment. In many cases, without making use of any drug except creosote, I have seen the fever allayed and at least be temporarily absent. The kidneys, as a rule, remain in normal condition, and the secretion of urine is sufficient, and very rarely shows any signs of morbid change.

In regard to the bacilli in the sputa, I am sure in several instances that they have entirely disappeared. This statement is taken from that of men who made the microscopic examinations, and who are not likely to be deceived. In some instances expectoration stopped and there was really nothing to examine for bacilli. Besides, as the other symptoms were all so much improved, it was reasonable to infer that the bacilli were gone, or if present, were in very small number. Even presuming that they existed in the lungs, although not raised, there is, and may properly be, in the minds of some of us, a query as to their importance and precise significance as regards prognosis.

Locally, I am confident that the signs have often been ameliorated. In a few exceptional cases in which I have had frequent and long-continued opportunities of watching, the diseased processes have unquestionably become entirely quiescent. Many times moist râles limited to the apices have become fewer. Occasionally they have disappeared entirely. Under these circumstances I have been uncertain whether or not areas of softening at the apices had become cicatrized. In view of other attendant conditions and symptoms, which were at the same time much improved, the more favorable judgment seems also the more probable one. In making this statement I am erring, perhaps, on the side of too great conservatism, rather than on that of over-confidence. The breathing, after several months of continuous medication, has often become less harsh and high pitched, and the area of consolidation distinctly smaller. I base this affirmation upon the evidences afforded by auscultation and percussion. In such instances not only was the breathing softer and more vesicular, but the note obtained by percussion had become less dull and the wooden return more limited in extent. In certain instances, when cavities were surely present at the apices, I have been convinced, after a while, that the areas in which loss of tissue was obvious had contracted in a marked degree, and accompanying this contraction all physical evidences of local disease were somewhat favorably modified. Whether or no the contraction of cavities be due to the increased formation of fibrous tissue, I am not prepared absolutely to decide. This opinion, however, which is intelligent, appears to me, also, highly probable.

Many of my patients before taking the creosote treatment had made a thorough trial of other approved methods. The rule was that they had already taken, unsuccessfully, cod-liver oil, the hypophosphites, malt, arsenic, and strychnine. Now and then I have known of or met a patient who had been placed in Williams's Pneumatic Cabinet, or had been subjected to Weigert's plan of hot-air inhalation, or had been fed with the stomach-tube after Debove's plan, or received injections per rectum with sulphuretted hydrogen. In some of these, when the treatment later with creosote had been continued a sufficient length of time to test it, a conviction was established in their minds that they had finally taken hold of what was most serviceable to them. Even now, when "tuberculin"[1] or "parataloid" injections seem to hold

[1] Or, indeed, the latest *trouvaille*, viz., tuberculicidin, or modified tuberculin.

under their sway the minds of a few of our best clinicians, I remark with more than curiosity that creosote is given internally, though injections of the former are at the same time being made. This appears to me very faulty from a rational point of view. If there be any real benefit resulting from the Koch fluid, or its improved modification, let us find out as soon as we can just what and how much this benefit is. How can we do this unless we abstain from other modifying treatment of more or less value.

In regard to corroborative cases of my statements I would refer those who wish to consult them to my original paper. With respect to other and newer cases I will gladly read, at the end of this communication, if the Society desires it, from the notes on one or more of those persons who have latterly been under my care. But I will not in this place destroy the unity of my reading by interpolating them.

What are the drawbacks, what the contra-indications in the use of creosote? Does it ever work harmful results? The objections to the use of creosote are few, and if any occur, they are usually obviated by a little judgment and good sense. Occasionally the stomach becomes intolerant. This is shown either by headache, inappetence, and a sluggish feeling in the performance of usual duties; or there is slight pain or uneasiness in the region of the stomach, evidently brought on by the action of creosote. These ill-effects are frequently occasioned by a too rapid increase of the dose, by a faulty method of administration, or by some evident personal idiosyncrasy; or, indeed, the true explanation is simply that there is an irritative or weak stomachal condition connected with the presence of tubercular deposit in the lungs and dependent on catarrhal gastritis, or a possible atrophy of the gastric tubules. The remedy of this state is not far to seek. Diminish the dose of the remedy for a time, or in extreme cases interrupt its use for a while, and resume prescribing it in small and slowly increasing doses, and more frequently repeated, only after a period of complete rest from taking it. If diarrhœa be occasioned by its use, the same rules apply, or, indeed, an appropriate opiate may be added in small amount to each dose with good effect, so far as toleration is concerned.

In a late number of the *American Journal of the Medical Sciences* the reporter for the *Journal*, in commenting upon Dr. William H. Flint's able article, seems to fear the injurious effect of creosote on the kidneys. In only a few instances have I had my fears aroused in this direction, although my attention has long been awakened to its rare occurrence. Usually the ordinary tests for creosote do not show its presence in the urine. It has been found there, however, and it is therefore conceivable that it may irritate the kidneys at times in a pronounced manner. I do not believe, after careful watching, that this will often take place, unless large and frequent doses of the drug be given. It is true that under these circumstances I have recognized a passing albuminuria, which disappeared when the amount of creosote taken by the patient was diminished. I think it is wisdom, in view of such facts, to be on one's guard and to examine the urine carefully every few days, at least, when the patient is taking large amounts of creosote.

Is it a contra-indication to the use of creosote when renal disease already exists? In reply, I would say that under these circumstances I have given creosote and have observed no ill effects from its use, although it is true I have not been willing to increase the dose beyond six or eight minims in the twenty-four hours. In so doing I believe I have acted prudently and wisely.

In regard to hæmoptysis is there any reason to believe that the use of creosote occasions hæmoptysis, or makes patients more liable to it? According to Dujardin-Beaumetz, creosote in appreciable doses, and while it is eliminated from the body by way of the respiratory organs, congests the bronchial mucous membrane and thus promotes the occurrence of pulmonary hemorrhage. According to him the drug is strongly contra-indicated whenever hemorrhage actually occurs. Nothing in my experience thus far tends to corroborate this view. It seems to me prudent, however, to recognize the possibility of what Beaumetz affirms, and for this reason to interrupt the use of creosote during the time there is hæmoptysis, or an evidently imminent tendency to it.

In regard to the creosote itself, it is all-important to make use of the genuine wood creosote, and particularly of the creosote obtained from the beech-wood, and to employ no other. Even now, and although attention has been directed to the regrettable fact by me, much so-called creosote that is dispensed is nothing but impure carbolic acid. Consequently evil, not to say poisonous, results are not infrequently obtained when we had a right to anticipate great amelioration, if not cure, supposing the pure drug had been taken. To prove the great importance of my statement, and to avoid all misapprehension, I refer my readers to an article by Dr. G. W. Dagwait, entitled "Impure Creosote the Cause of Failure in the Treatment of Pulmonary Tuberculosis," and published in *The Occidental Medical Times* for June, 1890. As to the preparation which is most eligible, I still believe the formula which I borrowed from Jaccoud, and which he apparently took from Bouchard and Gimbert, to be most generally useful. Still there are cases when the solution of creosote in whiskey with glycerine apparently agrees less well with the stomach than an emulsion with cod-liver-oil and the hypophosphites, or a mixture with wild cherry and gum, with or without a small quantity of morphine. The emulsion is now used preferably at St. Luke's Hospital, and I believe the formula for it was taken from Dr. W. H. Flint's article in the *New York Medical Journal*, July, 1890. The combination with wild cherry seems rational, and is employed by an eminent practitioner of a neighboring city.

With respect to the quantity of creosote to be used daily, opinions differ. My own judgment is to give small quantities at a dose, from a half to one minim, as a rule, and to increase its frequency gradually from three to four times daily to every two hours, if the stomach does not become intolerant. Of course there are instances in which I have deviated from this rule, and have carried the amount of creosote, with obvious advantages for a while, to twenty or twenty-five drops in twenty-four hours.[1] But I have very rarely been able to hold my patients at this dose for any length of time without some intercurrent objectionable symptoms arising which made me desist from increasing the dose, and usually made me diminish the quantity of the drug, or stop its use altogether for several days. Stomachal or intestinal disturbances, headache and general malaise, slight albuminuria, or hæmoptysis, have been symptoms which have thus guided my action.

I am well aware that my experience is not that of other observers. I know, indeed, the views of Sommerbrodt and Gutmann and Beaumetz and others, but I have not been convinced by their statements. I explain my lack of belief in them, as applied to my patients, because I have found that the American stomach will not, for one reason or another, bear as much creosote as is given across the water. Besides, I do not believe that the theory which upholds the use of creosote mainly on account of its obvious anti-microbic action is the one that is most satisfactory in explaining its effects in favorable cases, and therefore it is that I have never sought to make the blood-serum in a living individual, by reason of the quantity of creosote carried in it, capable of killing the active bacilli. This being the case I have not sought ways of reaching the lungs other than by the stomach, as the rectum or the subcutaneous tissue. The first way open to us, viz., the rectum, cannot but be a temporary make-

[1] In one case under my care at present, as much as sixty-four minims of creosote has been taken daily by the mouth without any unpleasant or injurious effects. Such a case, however, is exceptional, and must not be regarded as a standard ordinarily.

shift and presents no advantages over stomachal medication, except in a few instances when the stomach having become intolerant we do not wish to interrupt the medication altogether. As to the use of subcutaneous injections of creosote in sterilized olive-oil, I can only say that I have not been able to recognize its advantages except in regard to the larger quantity of creosote that it is possible to administer in this manner. As I do not regard this as desirable, especially when the drug should be administered for many months, not to say years, I am very sceptical in regard to its permanent and decided value. Still, I am forced frankly to add that this is the way toward which modern research inclines, not only for this drug but for several others now being used in the curative treatment of pulmonary phthisis (*i.e.*, gold, tuberculin, etc.). When compared as to its value with inhalations of hot air, of fluorhydric acid, of aniline (and also its internal use), of injections of gold, goat's milk, etc., of "lavage and gavage," where does creosote stand? Evidently it is superior to them all, if the concurrence of good medical thought and experience be the judge, and if the duration of the time during which it has held the favor of well-balanced, careful, and judicious observers be the test of any treatment.

What do we see to-day in the hospitals of New York—at the New York Hospital, at St. Luke's, Bellevue, the Roosevelt, Mount Sinai, Charity? Creosote is given by both visiting physicians and house staff with undiminished faith and in increasing quantities. I have yet to meet a practitioner who has carefully made use of it who has not some faith in its curative virtues. I have assuredly met a large number who feel we have in creosote to-day the best and most available medicinal remedy known to physicians in the treatment of pulmonary phthisis.

Is creosote only to be given by the mouth? Is there no other channel by which it can be introduced into the economy with resulting advantages? In my opinion frequent and long continued inhalations of creosote are extremely useful and should almost invariably be regarded as a very important adjunct of the internal administration. These inhalations when properly and systematically employed will unquestionably at times occasion positive and remarkably good results. In some instances of very obstinate and distressing cough they diminish its intensity and frequency very much. I have known this to be true when the internal administration had failed to do it in such an evident manner, or to the same degree, when unaided with this additional curative means. Repeated inspections of the laryngeal mucous membrane while treatment was continued have proved to me beyond a question that the larynx is at times very favorably modified by these inhalations. I have seen the mucous membrane which was extremely inflamed and thickened become almost of normal coloration, and I have sometimes thought that œdema and ulceration were modified advantageously. I know, even now, of no more practical method of continuous inhalation than the use of the perforated zinc inhaler, which in the hands of myself and others has proved so very useful. The ease with which inhalations are thus conducted, and the fact that few, if any, evil effects can result even from their injudicious use are strong arguments in their favor. Theoretical and even experimental objections have little importance, to my mind, in opposition with what I have so often observed in the treatment of patients. These may now be counted by the hundreds, and are always, of course, steadily increasing in numbers.

Latterly, in such appropriate cases of simple catarrhal inflammation as I have been able to treat in my office, I have made use of vapor inhalations from Beseler's globe inhaler. This method I have found more satisfactory during the past winter, as I have controlled a sufficient amount of air-pressure, thanks to the Edison electric plant, to make the inhaler work satisfactorily. I am of the opinion, as stated elsewhere, that these inhalations may prove to be of great remedial service whenever they are followed up assiduously and regularly. I only gave up their employment for a time on account of the practical difficulties in the way of obtaining benefit from them. Hereafter I hope these will be sufficiently removed for me to recur to them frequently. In tubercular phthisis such inhalations must be helpful in addition to those which are taken with the perforated zinc inhaler, mainly for the reason that the vapor is formed under considerable pressure and enters the lungs in greater volume and with greater power of penetration than when the air which is drawn through the sponge of the ordinary inhaler enters the respiratory passages. I have employed many different substances in inhalation by means of the zinc inhaler, but for phthisis pulmonalis I know of none so satisfactory as creosote. It must be combined with alcohol in the proportion of one part to eight, or it would be too irritating for the throat and could not be used continuously. When I say continuously I do not mean that the inhalation of creosote should be used all the time, but I do mean that little by little the duration of the inhalation and the frequency should be increased. Finally, the inhaler can often be worn hours at a time with comfort and advantage; but this end must not be reached too soon, and if such an attempt be made, in many instances failure results and the patient complains of irritation of the throat and beginning of the respiratory tract.

When the inhaler is worn by degrees a longer period of time it often affords comfort and relief. The amount of inhaling fluid poured on the sponge of the inhaler is usually about fifteen or twenty drops. More than this amount does not work so well. Always begin inhaling by wearing the inhaler a short time, and little by little increase the duration from a few minutes—say ten or fifteen—to half an hour, an hour, or more. The proportion of creosote to alcohol in the inhaling fluid is, as I have stated, ordinarily one drachm to the ounce. Of course this amount could be increased or diminished, but as a fact this proportion is most satisfactory. The worst results which can occur from inconsiderate use of the inhaler are to produce throat irritation at times, or to burn the lips slightly, if the sponge attached to it is brought in contact with them. There are some other details which I could mention in regard to the creosote treatment, but I refrain from doing so because I do not wish to monopolize too much time, and because I am well aware that most of what I have read is familiar to many who are listening. What I desire is to hear a very interesting and important topic properly discussed, and to have an excellent treatment receive due consideration as to its merits from prominent and able men of this Section. If I have praised the creosote treatment too much, I wish to be told so.

If I have merely voiced the prevailing convictions of those present, I would like to hear them from their own lips. In any event nothing but good can come, in my belief, to a vast number of unfortunate sufferers from establishing the creosote treatment of pulmonary phthisis on a reasonable and assured basis.

The following note from my late house physician, Dr. L. F. Bishop, seems to me of considerable importance in connection with my paper:

"St. Luke's Hospital,
"Fifty-fourth Street and Fifth Avenue,
"New York, November 18, 1891.

"My Dear Dr. Robinson: Over fifty patients of the House of Rest for Consumptives have taken the enteric pills of creosote of Dr. William H. Flint, in doses of from six to fifteen daily. The pills have been, almost without exception, well borne. A few cases of diarrhœa, which were at first attributed to the pills, were probably due to other causes. We began to use the pills about September 1st, and now use them to the exclusion of the creosote mixtures.

"L. F. Bishop."

The following is a letter received by me from Dr. E. L. Trudeau, of Saranac Lake, N. Y.:

"November 17, 1891.

"DEAR DR. ROBINSON: In regard to my personal experience with creosote in the treatment of pulmonary phthisis, I can only say that after watching the results of its exhibition for three or four years I have not lost confidence in its usefulness. Its value, in my opinion, is due not to any direct germicidal influence which it may exert on the tubercle bacillus, but to its efficacy in correcting fermentations of the digestive tract, so common in this disease, thereby improving appetite, digestion, and nutrition, and also to the beneficial influence it exerts on the secondary, inflammatory, and suppurative processes in the lung, which accompany the deposit of tubercle to a greater or less extent, and constitute so formidable an element of pulmonary phthisis. Thus far it has been truthfully said, the tubercle bacillus 'bears cheerfully' a degree of germicidal medication which may prove injurious to its host, and there is no proof that creosote differs in this respect from other germicides. This view seems to derive support from experiments made by others and by myself upon tubercular animals, in which the tubercular process is seen to be entirely uninfluenced by the largest doses of creosote given daily hypodermically. Clinically, however, the drug does seem to increase appetite, to improve digestion and nutrition, and to diminish cough and expectoration.

"In prescribing it, therefore, cases in which the digestive tract is at fault, or in which the inflammatory and suppurative processes are most prominent, should be selected rather than those in which the physical and rational signs point to a purely tubercular process.

"The best method of administering it is usually by the stomach, in capsules containing two drops of pure creosote to four grains of subcarbonate of bismuth, one to three capsules being given after each meal, according to the tolerance of the individual. In some cases, however, it seems to disorder the stomach, and cannot be exhibited in sufficient quantities to be effective. In these cases I have found the administration per rectum to leave the stomach free, and answer every other indication. Much larger doses can be given in this way, twenty to thirty-five drops of pure creosote may be mixed, according to the French method, with one to two ounces of almond oil, and beaten up gradually with the yolk of one or two eggs, subsequently thinned a little by the addition of a few drops of water, and injected on retiring, two or three times a week.

"The patient tastes the drug within a few minutes of its administration, and its odor can be detected before long in the breath.

"Creosote seems to be withstanding the test of time, and it may be said to be perhaps more useful than any other drug in combating a disease, the drug treatment of which has ever proved most unsatisfactory.

"E. L. TRUDEAU."

The following is a letter from Dr. W. C. Glasgow:

"ST. LOUIS, MO., September 30, 1891.

"MY DEAR DR. ROBINSON: In reply to your inquiries about my experience with creosote in pulmonary disease, I would say, after using the American, German, and French creosote, I find that the English (Morson's B. Creosote) is the best creosote for internal use. In many cases where druggists have substituted other makes of creosote for the English, I have detected the substitution by the bad effect. Creosote is like whiskey, the older it is, the better it is tolerated.

"To creosote a patient, it is necessary to give it in the largest doses which a patient can take without producing disturbing symptoms. This I call the point of tolerance. Individuals vary in the amount of creosote they can take, or in the point of tolerance. For some a dose of five drops is the maximum; others can take twenty to thirty, and one case is now taking thirty-seven drops three times a day. As a vehicle, I give preference to milk; next this, California port wine.

"I usually commence with two drops, dissolved in two drachms of whiskey, and this is added to a glass of milk; this dose is given after meals twice daily. Every third day the individual dose is increased by two drops, and this is continued until the point of tolerance is ascertained; when gastric distress is evident, the remedy is discontinued for two days, and on the third day it is recommenced with a dose two drops less than the one which produced the disturbance. When milk does not agree with the patient, I use California port wine and dilute freely with water. With these forms of vehicle I find the patient can take creosote for several months continuously without distress or disgust. The glycerine mixtures used for a length of time here have not proved as acceptable to the patient.

"In addition, I use the creosote inhalations made by adding creosote to hot water. This I much prefer to the dry inhalation, also the creosote ointment with vaseline as a base. In miliary tuberculosis and generally disseminated tuberculosis I have seen no benefit from its use. In fibroid phthisis its effects have not been marked. In phthisis I have found great benefit. In the first stage it almost always improves the condition, removes symptoms, and increases appetite, weight, and strength. In the second stage there is often great improvement, with changes in the symptoms and physical signs which show the tendency toward an arrest or chronicity of the disease. In the third stage equally satisfactory results are not so frequently obtained, but even here the change of the physical signs is seen, showing the tendency to arrest; the fluid gurgling becomes dryer, and in many cases the symptoms, such as fever, sweats, and cough, are greatly improved. The expectoration is very frequently diminished or checked.

"The best and most marked effect of creosote is seen in the chronic stage of cellular infiltration of the lungs, a condition which I described in the March No., 1889, *American Journal of the Medical Sciences*, and which has been lately noticed by Finkler, of Bonn, in his last work on 'Infectious Pneumonias.' These cases are often mistaken for tubercular cases, and to our great astonishment we find an unfavorable prognosis not sustained.

"I believe that we have in creosote a remedy which defertilizes the lung tissue and renders it an unfavorable soil for the growth and development of micro organisms. It is also an excellent expectorant. Combined with other measures to promote nutrition, it seems to me to be the best remedy which we have up to the present time to favor an arrest of many forms of tubercular disease.

"Yours truly,

"W. C. GLASGOW."

Milk a Microbe Killer.—Dr. Freudenreich has found by experiments that the cholera bacillus, if put into milk drawn fresh from the cow, dies in an hour, and in five hours if put into fresh goat's milk. The bacillus of typhoid fever takes twenty-four hours to die in cow's milk, and five hours in goat's milk. Other microbes suffer a like fate in varying periods. But he has also found that milk maintained for an hour at a temperature of 131° F., loses its power to kill microbes—a statement which is of interest in face of the common teaching which makes the purification of milk depend upon its being boiled. Again, the bactericidal properties of milk become weaker the older it gets, for cow's milk after four days, and goat's milk after five days, cease to have any effect upon micro-organisms.—*Annales de Micrographie.*

Inebriate Physicians.—The *Medical Press* proposes that physicians who become intoxicated while engaged in visiting patients shall be suspended from the right to practise for a certain period of time, on conviction of an offence "infamous in a professional respect."

EMBOLISM OF THE PULMONARY ARTERY IN CHILDBED.[1]

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In connection with the puerperal state, the occurrence of embolism of the pulmonary artery is such a sudden and terrible complication—often occurring when the patient is regarded as well on in a favorable convalescence, and affording time and opportunity for little more than a recognition of the appalling calamity—that one is justified in subjecting an individual case to scrutiny. As the causes of the accident are made, more and more, a matter of common understanding, we may hope to prevent, sometimes at least, the occurrence, as we are well-nigh powerless to give aid after the attack is established.

It would seem that the subject ought not to be considered from the obstetric stand-point only, for the study of general pathology affords lessons and illustrations of interest and importance, which should elucidate the subject.

In December, 1887, I attended a patient whose history was the following: The confinement was the second, delivery taking place at term. After her first confinement, which required the forceps for a complete inertia uteri in the second stage, she was left with a uterus larger than normal, and a relaxed condition of the muscular structures of the pelvic floor. This condition was not the result of cervical or perineal injury, and I mention it to show the physical type which she represented. This was further illustrated by general flabbiness of the muscles and disinclination to effort—evidence of poor circulation being manifested by fulness of superficial veins of the neck and hands, and a weak, easily accelerated heart action. She had no abnormal heart-sounds. In this second labor, weak uterine action was present, though the child was born without instrumental aid, after a tardy second stage. The placenta was delivered after considerable stimulation of the uterus. There was such marked disposition to subsequent relaxation of the uterus, that I continued sitting by the bedside for three hours with the hand upon the uterus. This attention obviated any excessive loss of blood, and when the patient was left, she had a good pulse, a satisfactory uterine contraction, and no after-pain. During the following night, after-pains came on with considerable severity, and continued, with gradually decreasing discomfort, for thirty-six hours.

No flow beyond normal attended the after-pain and the fundus uteri kept just below the umbilicus. As the pain passed off a good-sized clot was expelled. From this time no more after-pains occurred, and convalescence progressed satisfactorily. The lochia appeared normal, having no odor. Temperature, pulse, and appetite were normal. The uterus diminished in size, though less rapidly than usual.

On the tenth day following labor, when making my call, the nurse reported that the patient had been annoyed by slight odor to the lochia—which at this time were free from blood admixture—and that she desired a vaginal douche. Up to this time no douches had been employed, but when the nurse verified the patient's statement of slight odor on this day, I allowed the douche. Immediately after my call the douche was given, with results which were most alarming. I was immediately sent for, but being out I did not reach her until two hours later. I was told that, connected with the giving of the douche, a hemorrhage had occurred, and from that time she had alarmed those about her by her appearance, and the constant and excited complaint that she was very sick. A most casual examination confirmed this, her own opinion. The pulse was about 120, weak, and difficult to count. As the bed had not been disturbed after the douche—which had been actually interrupted by the supervention of the grave symptoms—I was able to note the quantity and appearance of the blood lost. There were a number of clots which, from their dark color and firmness, must have been in the uterus some time before their discharge. Altogether, these clots could have been held in one hand In addition, there was considerable staining of the bed linen. Vaginal examination showed the cervix open enough to readily admit the finger into the uterine cavity, and as the uterus had not contracted much after the dislodgement of the clots, the cavity was appreciated as amply large to have held them. There was no odor to the clots, and none left on the examining finger. It was evident that hemorrhage did not explain the general condition. My suspicion of embolism of the pulmonary artery, already entertained, was soon confirmed as I continued to observe the patient. A well known consultant, who arrived a little later, hesitated between this diagnosis and that of entrance of air into the circulation. The appalling picture of the next two hours, until death came, could never be forgotten. Until fifteen minutes before death there was, on the part of the patient, the most keen recognition of approaching death. The senses seemed more than usually acute, and the pleading for life was incessant. The consciousness and dread of dying was chiefly the theme, rather than her distress and suffering. The latter, special complaint was for "air," and for relief to her breathing.

The face was pallid, not cyanosed; the pulse rapid, feeble, irregular, and impossible to count for a full minute. The extremities were cold. An examination of the chest was wholly unsatisfactory, any such attempt being too much for the patient to tolerate as seeming to interfere with respiration. The heart-action, though weak, was tumultuous. After unconsciousness, death came so quietly as not to be recognized at once by friends.

No autopsy was obtained.

On reviewing the case, though without the help afforded by post-mortem examination, I should readily reject the view of entrance of air into the circulation as the cause of death, for the following reasons: Ten days after labor the retrograde changes in and about the uterus would have so far advanced as to make it impossible for air to be forced or aspirated into its venous system in any amount, if at all. Cases of sudden death from this cause, as I have seen them reported, occur immediately, or within twenty-four hours, after labor. Had air entered the cavity of the uterus (as it could have done read ily by aspiration, even), the open and relaxed cervix in this case would have afforded easy exit for it in event of contraction of the body of the uterus. Schroeder states that air does not spontaneously ascend into veins of the uterus, but must be forced into them by uterine contractions and an obstructed os.

The differentiation between embolism and thrombosis, in the absence of autopsy, cannot be made so readily. The strongest point in favor of embolism in this case lies in the supervention of the signs of obstruction of the pulmonary artery at the moment of the washing out of old clots from the uterine cavity. The mechanical disturbance of the uterine organ by the forcible dislodgement of such clots, which had resisted spontaneous discharge for days, could materially assist in freeing some coagulum situated in a uterine vessel, and facilitate its movement through the ovarian or uterine vein into the ascending cava. In view of a previously normal convalescence, such a coagulum would have been nothing more than one of the number which always close all torn uterine vessels after the discharge of the placenta. Certainly there was no other peripheral thrombosis from which an embolus could have been obtained.

Regarding the etiology of obstruction of the pulmonary artery in childbed, much that is interesting has been written. There seems to be a slight preponderance of these cases in primiparæ.

[1] Read at a meeting of the New York Practitioners' Society, January 8, 1892.

Some observers—notably Richardson, Playfair, and Barker—have reached the conclusion that, not infrequently, the obstruction is a *thrombosis* of the pulmonary artery. In favor of the spontaneous coagulation in this vessel it is noted that in the latter half of pregnancy there is found a marked increase of fibrin, and of water as well. Also, in many cases, a loss of blood at the time of labor lessens the force of the blood-current, and after hemorrhage the power of coagulation is increased in the blood which remains in the system. After labor, and during involution, in which process almost all the organs of the body participate, the blood is surcharged with the materials of retrograde tissue change. These conditions are the common accompaniment of normal parturition.

Other conditions, at times met with, favorable to thrombosis, are the blood states of rheumatism, of cancer, and of septic infection; less often still, possibly those of cholera, diphtheria, scarlatina, and fevers, especially those of malarial and tropical regions.

Other, equally prominent, writers, by direct statement or by implication, would seem to favor the opinion that, were our investigations thorough enough, we might find that obstruction of the pulmonary artery, following childbirth, was of embolic origin in all cases. We readily find the origin of the embolus from a thrombus of an iliac or femoral vein, discoverable both during life and upon autopsy, in about one half of all cases. In the other class of cases no peripheral thrombosis has been known to exist during life, and none discovered (or at least mentioned as found) in post-mortem examination. In one case reported, which would have gone into this latter class except for very close scrutiny, a thrombus was found in a small hemorrhoidal vein, from which a fatal embolism of the pulmonary artery resulted.

In looking over recorded cases, I do not find that much scrutiny has been bestowed upon the uterine vessels.

In the great majority of the reports mention will be made of the condition of iliac or femoral veins, and nothing said of the ovarian or uterine veins. When allusion has been made to the latter it has been, often, a passing one.

Furthermore, would it not be possible for us to have embolism of the pulmonary artery by the detachment of a thrombus which was small, and perhaps of physiological nature only, and—were post-mortem examination permitted—what should we expect to find other than the absence of the coagulation-plug from the uterine vein?

In other words, would there always be a lesion, readily discoverable, pertaining to the uterus and appendages, when there had been a dislodgement of a thrombus from the ovarian or uterine vein? This question I raise for consideration in connection with the cases reported where no thrombus has been found other than the obstruction in the pulmonary artery, and in regard to which some writers have been satisfied to assume spontaneous coagulation in the pulmonary artery. Winckel calls attention to the frequent association of the invasion of the attack of embolism with bending, straining at stool, violent laughter, lifting, etc. These acts could have no etiological relation to a thrombus of the pulmonary artery, but could favor the detachment of a part of a fibrinous plug from some small peripheral thrombus.

The objection might be raised that the anatomical arrangement of the veins of the broad ligament, in complicated plexuses, would interfere with the direct passage of an embolus from a uterine vein to the ascending cava. Admitting this to be sometimes true, we would have, by the detention of such embolus in a vein of the broad ligament, a nidus for a rapidly-forming thrombus at this situation, which could be the source of the embolus which would find its way into the pulmonary artery.

Charpentier rejects absolutely the theory of spontaneous coagulation through the influence of the blood-state of pregnancy, because of the infrequency of the occurrence.

If we may have spontaneous coagulation of the blood after labor, it may properly be asked why this should always occur in the pulmonary artery. It must be remembered that this is the one situation, in that part of the circulating system containing venous blood, to which emboli derived from parts in and about the uterus could have access. Why do we not see thrombosis of the cerebral sinuses after parturition? Two answers have been made to this question, neither being very satisfactory, in my opinion. One explanation offered has been that the blood reaches its maximum of impurity in the right heart and pulmonary artery, and is in consequence more ready for spontaneous coagulation here than elsewhere. The other theory explains a greater coagulability in this part of the circulatory system, on the ground that the highly coagulable contents of the thoracic duct are poured into the subclavian vein and modify the blood of the pulmonary artery.

Playfair—who is the strongest advocate of the idea of a possible primary thrombosis of the pulmonary artery—believes, from a study of twenty five cases, that obstruction of this vessel from thrombosis occurs before the nineteenth day after labor, and that obstructions developing after the nineteenth day are due to embolism. He, however, reports a case in full in which embolism of the pulmonary artery occurred eight days after an operation in the rectum, the peripheral thrombus in a vein in this situation being found on post-mortem examination.

Correct conclusions upon this question of primary thrombosis of the pulmonary artery will not depend upon theory and clinical observations alone. Much will be learned through the habitual examination of the fibrinous plug found in this vessel, to ascertain whether it is all recent, or part recent and part old, together with most careful search for peripheral thrombosis.

Regarding diagnosis of obstruction of the pulmonary artery, it may be said that there is rarely a deviation in clinical aspect from that of the case reported. A clearly defined murmur at the orifice of the pulmonary artery may be added in some cases. In one instance reported by Richardson, the patient could lie best with face downward. In one case of Playfair's, the patient could breathe best when perfectly flat.

While the prognosis is extremely grave, cases of recovery have been reported by several observers, and I venture to introduce the report of one, quite typical of this nature, reported by Playfair, who first and chiefly of all writers stated his belief in the possibility of recovery.

A woman on the third day after labor had syncope from fright, followed by sense of oppression at the chest and greatest difficulty in breathing. She improved somewhat until the ninth day, when on walking to her couch the symptoms came back. For the next two weeks or more the patient could not lie down. The least excitement or talking brought on aggravated dyspnœa, which seemed to threaten instant death. She panted and struggled, her chest heaving with short, gasping respirations. She waved people from in front of her, calling for more air. Pulse, 130, very small and feeble; face, deadly pale. The attacks continued to be frequent, brought on by trivial causes. She talked in a suppressed voice, as if with no spare breath. Auscultation showed entrance of air to lungs in every direction, in front and behind. Percussion clear and resonant. No râles. Immediately over the site of the pulmonary artery, there was a distinct, harsh, rasping murmur, confined to a limited space, and not conveyed upward or downward. Heart-sounds were feeble and tumultuous.

For days the patient had great dyspnœa, faintness, and coldness of the extremities, the left hand being colder than the right. She could utter two or three words only at a time. She had little sleep, and could not take the recumbent posture. The heart was tumultuous, and the heart-sounds faint. After about ten days, improvement began. One month after the attack the pulse was 90, breathing was improved, color good, and skin warm. She could walk a little. Six weeks after attack, breathing

was perfectly natural and quiet, and any position could be assumed. Cases of recovery have been reported by Spencer Wells, Wade, and others. Paget reports a case which lived a week. Richardson reports a case living several weeks. In these, the diagnoses were verified by autopsy.

It is probably true that pneumonia of childbed, also, from which we may have recovery, is sometimes of embolic origin.

Regarding treatment, the earlier writers uniformly recommend carbonate of ammonia. Playfair says the main element in such cases is the most rigid rest and nourishing, supporting regimen.

Stimulation, to be judiciously employed, ought certainly to be mild.

Barnes, looking toward the prevention of the accident, advises against massage to a leg recovering from phlegmasia dolens, lest detachment of a portion of the thrombus may take place.

The experience of the case reported by me emphasizes, on new grounds, the importance of such attention to the uterus, at the time of labor, as will prevent, if possible, the formation and retention of coagula in its cavity, and obviate the need of local treatment during the puerperium, by the establishment of normal involution.

CONVULSIVE TIC; ITS NATURE AND TREATMENT.

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The term "convulsive tic," applied to the class of cases of which this paper treats, may be somewhat misleading, for the reason that several affections differing from each other, clinically at least, have been generalized under this heading. Thus the term "convulsive tic" in England, and with some authors in America, is almost exclusively used with reference to what is generally known as "facial spasm;" while the terms "habit chorea" and "habit spasm" are employed synonymously to designate that form of mobile spasm which, it seems to me, should more properly be called convulsive tic. Convulsive tic is characterized by brief spasmodic contractions of individual muscles, or groups of muscles, with periods of rest between the spasms varying in duration from a few seconds to several minutes. The muscular movements are usually quickly made and sharply defined, and differ materially from the slower, aimless, and almost continuous muscular contractions of chorea. Sometimes the spasms are limited to one extremity, sometimes to the muscles of the face and head, and again a spasm of the muscles of one part of the body may be almost immediately followed by spasmodic movements in various other regions. The term "habit chorea," first introduced by Weir Mitchell, seems to me to be entirely inappropriate, as the movements of convulsive tic are not in the least like those of chorea. I have in one instance witnessed the two diseases exemplified in the same patient, when the contrast between the two forms of spasm could be readily differentiated. The term "habit spasm" suggested by Gowers, seems to me to be equally inapplicable to this affection, as it implies that habit has something to do with the genesis of the spasms, and as habits are acquired from the repetition of voluntary acts, it would indicate that the individual began by executing the spasms voluntarily, and that afterward they became automatic. Such, however, is not the case. The word "tic" is derived from the French, and signifies a "jerk" or "twitch." Hence it seems to me that the term "convulsive tic" is the most appropriate title for this class of spasmodic disorders, and more accurately describes the most prominent feature of the disease than any of the others.

Convulsive tic usually begins in childhood, and unless it is arrested sometimes continues through adult life. In many other cases the disease, after continuing with greater or less severity for several months or years, gradually diminishes and eventually disappears. Sometimes a distinct neurotic history can be traced in either one or both parents, but in all cases there is probably a strong neurotic tendency on the part of the affected individual

The situation of the spasms and the number of muscles involved varies greatly in different individuals. Sometimes the facial muscles only are affected, the muscles of one side of the face being seized with spasm *en masse*, producing what is known as facial spasm, or one or more muscles may be involved separately or in succession, so that the affected individual is compelled to make a series of facial contortions, sometimes affecting one side of the face, sometimes the other. Sudden, quick jerks of the head in almost any direction are not uncommon, while shrugging of the shoulders, and quick, jerky spasms of the muscles of the arms, legs, and trunk are frequently observed.

Respiratory spasms are not infrequent. There may be sudden expiration or inspiration, accompanied by various laryngeal sounds, such as grunting, sobbing, groaning, barking, wheezing, sniffing, and sighing. The spasms are not at all controllable by the will-power, and are usually intensified by observation and by the excitation of the emotions, particularly those of annoyance and anger. The principal characteristic of the affection is the sudden spasm of muscles from a quiescent state, the transitory nature of the spasm, and the distinct interval of rest before any particular spasm is repeated.

Morbid Anatomy and Pathology.—In considering the question of the pathology of convulsive tic we must necessarily enter very closely on the pathology of all forms of mobile spasm. There are two forms of muscular spasm—the spastic and the mobile—the one characterized by rigidity and contracture, the other by varied forms of contraction and relaxation. Among those diseases in which mobile spasm is a prominent feature are included epilepsy, chorea, athetosis, the various forms of tremor, convulsive tic, and other similar motor disorders. The mobile spasms of these diseases differ from each other very materially in character, so different are they as to be readily distinguishable the one from the other, and yet they are all mobile spasms differing from each other only in degree, and are really the outward expressions of very similar pathological conditions. What the pathological difference is which in one case causes chorea, in another case convulsive tic, and in still another case paralysis agitans, we cannot determine. There must be a difference, for aside from the varied forms of the spasms almost every form requires a different treatment, which should not be the case if the morbid changes were identical in all instances. In some cases no pathological change can be discovered at all. In other cases well-marked organic lesions, such as hemorrhages, cysts, milliary aneurism, tubercular growth, vascular and perivascular disease, and other well-recognized morbid conditions are observed. But this strange feature is recognized, that very similar lesions in different cases are manifested by very dissimilar forms of mobile spasm. For instance, a tubercular growth which invaded both optic thalami in a case reported by Sharkey, produced bilateral tremor, while very similar lesions have been observed by Demange, Gowers, and others, to be followed by athetosis and ataxic movements.

The view is almost universally held that any of the various forms of mobile spasm may result from disease of any part of the motor tract in the brain. This view was first concisely set forth by Demange, who also holds that the variety of movement does not depend upon the seat of the lesion, but rather upon the condition of the motor tract below the lesion.

With these ideas I cannot concur. On several previous occasions I have endeavored to show that lesions of certain parts of the motor tract are invariably followed by spastic spasm and never by mobile spasm. Recent

pathological contributions have only tended to confirm this view. A vast difference exists between the symptoms produced by lesions of the motor or co-ordinating cells on the one hand, and lesions of the conducting motor fibres on the other. Irritation of the latter is invariably followed by spastic spasm. This effect is commonly observed to follow hemorrhages and other lesions involving the motor division of the internal capsule, crus, and pons, and from lesions affecting the motor-conducting fibres in the lateral columns of the spinal cord. I have been unable to find a single recorded case of mobile spasm in which the lesion has been found confined exclusively to the motor-conducting fibres. On the other hand, in every case in which a lesion has been discovered at all, it has been found to implicate either the motor cortex, or some part of the thalamus or striatum, or the cell area of the pons and medulla. Where the motor fibres are coincidently injured with the cell areas referred to, spastic spasm invariably accompanies the mobile spasm. I have therefore been led to conclude, from a study of all the recorded cases I have been able to collect, that all forms of mobile spasm, including convulsive tic, depend upon lesions of the motor cerebral cortex, the thalamus, the striatum, and the cell areas of the pons and medulla. The lesion must be in the nature of an irritation. Destructive lesions result in paralysis, irritative lesions in spasm. In those functional cases of mobile spasm in which recovery occurs either spontaneously or under treatment, the irritation of the nerve-cells depends upon some cause which is capable of being removed, or, in other words, it is not organic. Toxic conditions of the blood; malnutrition of the cells from blood deficient in nutritive qualities; molecular changes in the cells from shock or fright, together with, in many cases, an innate tendency to the development of neuroses, probably constitute the causes of the majority of cases of convulsive tic and other functional mobile spasms. It is very evident, therefore, that mobile spasm cannot be regarded as a condition due to any lesion which is constant either in position or in character.

It seems to me, therefore, from the foregoing, that the view generally held, that mobile spasm is due to a lesion of any part of the motor tract, is erroneous and untenable, and that it can be positively demonstrated that such spasms depend upon irritative lesions of either one of the basal ganglia, the cerebral motor cortex, or the pons and medulla, and that it is frequently impossible, in the present state of our knowledge, to determine with accuracy in which of these areas the lesion is situated.

Treatment.—As I have previously remarked, one of the evidences that a pathological difference exists between the different varieties of mobile spasm consists in the fact that each form has its own particular remedy, which seems to be practically inoperative in other forms of mobile spasm.

Thus arsenic, which is considered by many to be almost a specific against chorea, is almost valueless in the treatment of epilepsy, paralysis agitans, and, in my hands, of convulsive tic, and hyoscine, which is about the only remedy which seems to have a controlling influence on paralysis agitans, is found to be quite useless in the treatment of any other form of mobile spasm. In the treatment of convulsive tic I have secured the best results from the internal administration of conium and atropine. I think the efficacy of these remedies is greatly enhanced by combining them with moderate quantities of bromides. Bromides alone have not proved successful in my hands, nor have I been more successful with arsenic, either hypodermically or *per orem*, and I have on more than one occasion witnessed a decided aggravation of the symptoms after the administration of iron, strychnia, and phosphorus. Perhaps in very mild cases tonics may prove serviceable, but in the severer forms of the disease I have not witnessed the improvement from them which has invariably followed the use of conium or atropine. The latter remedies when properly used will, in the majority of cases, be sufficient to control the manifestations of the disease if it is not due to an organic lesion; but I feel convinced that the recovery of the patient is greatly accelerated by the administration of small quantities of bromides with atropine or conium. In my experience cases have yielded more readily to conium than to atropine. Both of these remedies should be given at first in small doses, and the quantity gradually increased. With the atropine I usually begin with a dose of about the $\frac{1}{100}$ of a grain, and gradually increase it to the $\frac{1}{40}$ of a grain. It is seldom necessary to increase the dose beyond this point. With conium I have used the fluid extract and the alkaloid conine. I have not observed any greater benefit from the use of one than from the other. To derive the best advantages from conium it should be used in increasing doses. I think better results could have been obtained by other observers if this remedy had been pushed to the proper extent. Beginning with an initial dose of five drops of the fluid extract, I increase the dose one or two drops a day until the tic ceases or until the physiological effect of the drug is produced. Sometimes a patient can take from thirty to fifty drops at a dose without experiencing any inconvenience. As soon, however, as the patient begins to complain of weakness, vertigo, and double vision the dose should be reduced to the original quantity and increased as in the first instance. The majority of cases will be relieved by smaller doses than are required to exhibit evidences of toxæmia. The following cases, selected from a number of others, are typical examples of the disease.

Case I.—Consulted me on September 29, 1891. She was then eight years of age. Her mother stated that the convulsive movements began when the child was three years of age. At first the shoulders and arms were the only parts affected, but gradually the disease extended till at the time of her first visit to me there was hardly a muscle of the body which did not participate at intervals in the almost continuous muscular action. The eyelids and the muscles of the face and of the neck were frequently the seat of spasms, so that sudden facial contortions, accompanied by violent jerking of the head, usually backward and laterally, occurred every few moments. Jerking of the muscles of the arms, legs, and trunk were also frequent and violent. She had been sent to school when she was five years of age, and had always been considered unusually bright and intelligent for her years, but in the past few months she seemed indifferent to her studies, became inattentive, forgetful, and stupid. Her face wore that vacant unintelligent look which is often seen in severe cases of chorea and epilepsy.

The mother was strong-looking and apparently healthy, but had suffered from chorea in childhood and in later life with migraine. The father was healthy in every way so far as I could ascertain. The patient had been treated for chorea by two different physicians at different times, and had taken arsenic in large doses and for a long time, without any apparent relief. The day before I saw her she had reached a dose of twenty-two drops of Fowler's solution three times a day, and it certainly did not seem to me, judging from the severity of the muscular spasms, that the arsenic had exerted any beneficial influence. The mother stated that she could see no improvement from the arsenic.

The child was weak, pale, and badly nourished. There seemed to be a slight tendency to lateral curvature of the spine, but this was probably a simulation, due to weak muscles of the back. There were nausea and vomiting, but this I attributed to the arsenic, and the patient complained of almost continuous headache. The mother stated that the child was restless in her sleep, moaned frequently, and seemed to have unpleasant dreams. The convulsive tic ceased during sleep.

I prescribed bromide of sodium in doses of ten grains three times a day, together with the sulphate of atropia, beginning with an initial dose of $\frac{1}{75}$ of a grain, and gradually increasing it till a maximum dose of $\frac{1}{40}$ of a

grain was reached. For the first few days the toxic effects of the atropine, such as dryness of the throat and dilated pupils, were quite apparent, but these symptoms shortly disappeared and did not return.

The improvement of all the symptoms was gradual but steady. The headache ceased within two days, the nausea in about the same length of time; the sleep became quiet, and seemed to be more refreshing; the appetite returned, and with it the strength of the child increased rapidly. The mental condition improved, and soon the patient was as bright as ever.

The first sign of abatement of the muscular spasms was seen in about a week after treatment began. It was then observed that the patient did not roll the eyes as much as she formerly did. The facial muscles were next affected, then the muscles of the extremities, then the shoulders, and, finally, the muscles of the neck. Shrugging of the shoulders and jerking of the head backward and laterally were observed to occur occasionally for some time after the tic had ceased in all other parts of the body. The patient was last seen on December 11th, a week after treatment had been abandoned. There was no return of the tic.

Case II.—This patient was a lad, thirteen years of age. His father says he developed convulsive tic when he was three years of age. The movements were not confined to any special area then, but occurred in almost all the voluntary muscles. This condition lasted between three and four years, when it disappeared spontaneously. Since then he has had attacks of it every fall. At first these annual attacks were of short duration and yielded readily to tonics, and were limited sometimes to the legs, sometimes to the arms and shoulders, and sometimes to the head and face. Each attack seemed to be more severe, to last longer, and to resist the usual treatment more stubbornly.

The present attack came on in the last part of June, 1891, and affected the muscles of the face and neck. Occasionally there would be spasmodic movements of the shoulders.

His physician, searching for reflex causes, had performed the operation of circumcision; had had his nose burnt out; his tonsils cut; and had had him fitted with glasses for the correction of astigmatism. All of these various operations were necessary and were properly performed, but they apparently exerted no curative influence as no amelioration of the tic was observed. The usual tonics, iron and strychnia, had been given without effect, and arsenic, given in increasing doses, was administered in large quantities, but without diminishing the spasms either in frequency or in severity.

The boy was strong, well developed, and was fond of out door exercise, and indulged in it properly. He was bright, and as attentive to his school duties as boys of his age usually are. No neurotic history of either parent could be obtained. When I first saw him he had attacks of spasmodic closing of both eyes and rolling of the eyeballs, spasm of the angles of the mouth and nose with an accompanying inspiratory sniff, corrugation of the brow, various other facial contortions, and a rapid and violent snap of the head backward or sideways. If he happened to be speaking coincidently with these sudden movements of the head the words were violently jerked out of his mouth. The muscles were quiescent during sleep.

I prescribed for him the same treatment that I gave to Case I., with the exception that the dose of bromide was slightly greater, fifteen grains being given three times a day. No difference was made in the dose of atropia. There was not the slightest improvement for ten days. At the expiration of that time the tic seemed to be slightly better, but not markedly so. The atropine was then discontinued, and the fluid extract of conium was substituted in its place. The initial dose of the conium was five drops three times a day, and this dose was increased one drop daily till a maximum dose of twenty-five drops three times a day was taken. No improvement was observed till a dose of nine drops was reached; then the spasms began to yield rapidly to the treatment, and by the time a dose of sixteen drops was reached not a trace of the tic could be observed. The remedy was continued for several days longer, and was then gradually reduced. There has been no return of the tic.

Case III.—A gentleman, forty-two years of age, consulted me about a year ago. He developed the first symptoms of convulsive tic when he was about eighteen years of age, and the disease has never left him. Some days he is comparatively free from it, other days the spasms follow each other rapidly; as a rule there is a distinct interval of four or five minutes between the attacks. All of the voluntary muscles seem to be implicated, not at the same time, of course, but at one time or another, and peculiar inspiratory and expiratory barkings and wheezings frequently accompany the facial and body contortions. He has no organic disease that can be discovered, and all his life has been singularly free from illness, having even escaped the majority of the diseases of childhood. Various forms of treatment have been tried from time to time. He has consulted such noted physicians as Buzzard and Gowers, of London, and Charcot, of Paris, and others, but treatment of any kind has, so far, failed to produce any amelioration of the symptoms. We may therefore conclude, from the long continuance of the affection and from the failure of any form of treatment which the most competent neurologists can suggest, that the disease is the result of structural changes producing an irritation of the cells either in the cortex, one of the basal ganglia, or the pons or medulla. But in which of these regions the lesion lies we cannot determine.

Case IV.—A woman, about thirty-two years of age, came to my clinic in January, 1891. For the past twelve years she had been subject to attacks of convulsive tic affecting most of the muscles of expiration. The attacks, at times, came on every few minutes, at other times she would go for hours without a spasm. Whenever she became annoyed or irritable the spasm invariably became more severe and more frequent. There were no evidences of hysteria. With each attack the body was seen to move violently and the breath was expelled with great force from the lungs, the patient emitting at the same time a loud but brief vocal sound, somewhat similar to that uttered by a laborer as he strikes a blow with a heavy sledge, only in this case the sound had much more volume and was even more explosive in character. I prescribed for her the fluid extract of conium in doses of five drops three times a day, increasing the dose one drop daily. The greatest quantity taken at a dose was twenty-nine drops. She also received sparks of statical electricity over the cervical and dorsal spine three times a week. Improvement was noticeable in a few days, and steadily advanced. The attacks became less violent and less frequent. Anger or excitement failed to incite them, and in a few weeks they ceased entirely. She remained perfectly well during the summer and fall without treatment, but last December she began to have the spasms, feebly at first, but showing a strong tendency toward development. The same plan of treatment was inaugurated. The static sparks were given again because the patient liked them, believing the electrical application was the principal part of the treatment. Improvement began at once, and the spasms ceased entirely after a dose of eight drops was reached. I saw the patient yesterday. She was then taking fifteen-drop doses and had had no attacks for a week.

Case V.—A strong vigorous woman, about thirty-seven years of age, consulted me at my clinic in February, 1892, for convulsive tic affecting the expiratory muscles. Her symptoms were identical with those described in the history of the preceding case, only not so pronounced in character. The affection began about six months before I first saw her. She had never suffered from any serious illness; her home life was happy; she had had three children, the youngest of whom was over a year old;

there was no evidence of uterine or ovarian disease; and she had not experienced any fright or shock. In fact the cause of the disease could not be ascertained. The spasms seemed to affect almost all of the muscles concerned in expiration, and occurred probably ten times in a minute. An expiratory vocal sound always accompanied the spasm. None of the other muscles seemed to be implicated. The patient seemed to be very nervous and somewhat apprehensive. She had suffered so long without being able to obtain relief that she feared recovery was impossible. She was therefore somewhat depressed and cried frequently, but there were no evidences of hysteria. I presented her to my class, and while she was the subject of my remarks and the centre of observation the attacks were decidedly increased both in frequency and in severity. I prescribed the fluid extract of conium, beginning with doses of seven drops three times a day, and ordered the dose to be increased one drop daily. She was also given fifteen grains of bromide of sodium with each dose of conium. I saw her two days later, when she was taking nine-drop doses of the conium. The spasms were much better. While she was sitting quietly, apparently unobserved, among a number of other patients she did not have a single spasm, and even when brought before the class she did not have any until attention was directed especially to her case; even then the spasms were infrequent and very slight. Improvement continues steadily, and though the patient is still under treatment—only ten days having elapsed since the conium was first administered—she has been benefited to such a marked degree that the influence of the conium cannot be questioned, and there is every indication that the spasms will cease entirely in a few days more.

In the first and second cases, which were functional, arsenic had been used to its fullest extent and without exerting any beneficial effect. This has almost invariably been my experience with this remedy in cases of convulsive tic. On the other hand, though both of these cases were of long standing, improvement began and continued to a successful termination as soon as the influence of atropine on the one hand, and of conium on the other began to be appreciated by the affected nerve-cells. The third case was simply introduced to call attention to the fact that convulsive tic sometimes becomes organic and permanent, and that in these cases any form of treatment is futile. It also points to the fact that convulsive tic, like epilepsy, may begin as a functional disturbance, and that the continual irritation to which the motor cells are subjected may in time induce structural changes in the cells themselves, and thus change a primarily functional disease into a secondarily organic one. It is quite probable that Cases I. and II. would have in time become organic. The persistency and long duration of the spasms point that way.

The fourth and fifth cases are interesting on account of the circumscribed extent of the tic and its unusual location; the fact that after so long a duration, in both cases, the disease was relieved so promptly by conium; and the speculation as to what influence the statical electricity had on recovery. Without wishing to detract from the importance of statical electricity as a therapeutic agent, I cannot see how it could possibly have affected the course of the disease one way or another except purely in a psychical manner. Convulsive tic is unquestionably of cerebral origin and deals with the irritability of the cells connected with the affected muscles. It is difficult to understand, therefore, how any form of electricity applied to the spine, as it was applied in this case, could exert any influence at all except through the mind of the patient. The patient believes emphatically that the electricity cured her.

Zinc, either in the form of the oxide or the sulphate, has been recommended for convulsive tic, and, indeed, I have seen more than one case yield after the judicious use of this drug; but recently I have discarded it, as it does not seem to me to be as efficient as either conium or atropine.

A study of these cases shows the tendency of this affection to assume a chronic course, and also shows the powerful influence which both atropine and conium exert in speedily arresting its manifestations, and suggests strongly the advisability of prompt and effective treatment, not only to secure the comfort of the patient, but also to provide against the disease becoming permanent.

Progress of Medical Science.

Benign Infections—Œdema of the Larynx.—Dr. Merklen has recently communicated to the Medical Society of the Paris Hospital cases of infectious phlegmon of the pharynx and larynx, terminating in death. Dr. Garel reports, in the *Annales des Maladies du Larynx*, two cases of the same nature, but with this difference, that here the process was benign and terminated in cure. In both instances, young men of about an equal age were the subjects, and both gave a history of preceding affections of the mucous lining of the larynx. This laryngeal susceptibility makes one think that the mucous membrane allowed of easy penetration of pathological elements coming from without. Within the space of four or five days the œdema reached its apogee, and dysphagia was complete. Saliva, liquid and solid food were alike incapable of being swallowed. In spite of the gravity of the situation, the urine contained not the slightest trace of albumin, the laryngoscope showed the existence of an œdema absolutely different from that which one observes in the suppurating infectious forms. This is a soft œdema, trembling like jelly in the most prominent portions. It has a transparent, opaline hue, somewhat violaceous. It is thus seen to be very different from the hard œdema, which is red, and non-transparent in severe phlegmonous laryngitis. In each instance serious symptoms lasted only four or five days, and came on without any apparent cause. The author asks whether this is not the affection described under the name of primary erysipelas of the larynx. The fever and rapid remission are well in accord with this view of the case. Applications of tincture of iodine have seemed beneficial in these acute œdemas, but cocaine anæsthesia must precede it, to avoid pain and the danger of producing spasm.—*Journal de Médecine*, December 10, 1891.

Pelvic Inflammation in Women.—Dr. Potter, in a pathological study of this most interesting condition, which furnishes such a large proportion of the gynecologist's work, regards McMurtry's grouping of varieties of inflammation as about the best. It is as follows: 1. Inflammation of serous and cellular intra pelvic tissues cannot be separated clinically nor histologically, hence they cannot be properly distinguished by the terms perimetritis and parametritis. 2. The pelvic cellulitis of Emmet, which corresponds to the peri-uterine phlegmon of Nonat, is as rare as inflammation of the cellular tissue elsewhere. 3. Pelvic inflammation is, generally speaking, peritonitis resulting from disease of the ovaries or Fallopian tubes, or both. 4. Pelvic peritonitis presents every grade of activity, and is always symptomatic, never idiopathic. These inflammations are either of puerperal, gonorrhœal, or miscellaneous origin, and under the latter are included all infections of the endometrium by instruments, medicinal agents, and traumatism.—*American Gynecological Journal*, December, 1891.

Carbolic Acid Poisoning in a Hospital.—A patient in a London hospital recently died from poisoning under peculiar circumstances. A sister-in-law who had come to visit her gave her to drink from a basin standing on a table near the bed. The basin was thought by the visitor to be filled with water, but actually contained a carbolic acid solution.

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A NEW TREATMENT OF CONGENITAL DISLOCATION OF THE HIP.

MANY are the attempts that have been made to obtain a serviceable hip-joint for those unfortunates who have been born without one, but few are the successes which have attended these efforts. Some few cases are on record in which an apparent cure of congenital dislocation has been obtained, but it was only after a most tedious course of treatment, extending over months, and even years, trying alike to the surgeon and the patient, and impossible of application in the majority of cases, even were a successful termination less problematical than it is. Dupuytren early recognized the almost hopelessness of any treatment, and refused even to attempt a cure, being persuaded that a palliation of the condition by means of retentive apparatus was the utmost limit of the surgeon's skill. Subsequently Guérin advocated continuous traction and immobilization, a method that has given good results in a few cases in the hands of the late Buckminster Brown and others. Margary advocated resection, and obtained a seeming improvement in a limited number of cases by this operation; but his method is unscientific and his followers were few. Hoffa has recently advocated the formation of a new acetabulum by detaching a flap of periosteum; but, though ingenious, this operation is not likely to find favor in actual practice.

The most recent method is one proposed by Lannelongue in a paper read by him before the Surgical Society of Paris, on December 23, 1891. It is simply an extension of the author's sclerogenic method of treating tuberculosis of the joints by chloride of zinc injections. As has repeatedly been shown, there is in congenital dislocation of the hip more or less deformity of the head of the femur, together with absence or extreme shallowness of the cotyloid cavity, and this fact offers a ready explanation of the great difficulty of cure. The obvious indication is to form a new acetabulum, and to oppose a barrier to the upward displacement of the head of the femur. This M. Lannelongue proposed to do by creating a thick and resistant flange at the upper edge of the cotyloid cavity. He presented to the Society a little girl, three years old, upon whom he had performed the operation for a congenital dislocation of the right side. On November 17th, the child being anæsthetized and firm traction being made on the limb, the author made eight injections, of two drops each, of a ten per cent. solution of chloride of zinc, in a semicircle along the surface of the ilium, above the point where the head of the femur was maintained. There was no reaction after the operation, and ten days later one could feel a ring of bony firmness in the place where the injections were made. On December 9th, ten more injections were made upon and above this ring, in order to strengthen it. When the patient was examined at the meeting this new acetabular ridge could be plainly felt as a very hard, painless swelling, formed, M. Lannelongue claimed, in great part by a condensing osteitis.

That the deficiency of the acetabulum had been at least temporarily remedied no one could doubt, for the child walked well and the hard ridge could be felt as a barrier to the upward progress of the femoral head. But whether the condition will be permanent is a question that can only be answered by time. That the operation may prove to be a success may be devoutly wished, both for the sake of the unfortunate little patients and for that of the surgeon who would rejoice in the removal of one more of the *opprobria* of his art.

UNEQUAL AXILLARY TEMPERATURES.

IN the *Montreal Medical Journal* for January, 1892, Dr. W. H. Hattie reports a case of differing axillary temperatures which is interesting as a contribution to the literature of this puzzling subject. The patient was a man, twenty-one years of age, who had received a blow over the left temporal region, which had temporarily abolished consciousness and had been followed by symptoms of mental derangement. He was trephined and a large clot of blood was removed from between the dura and the bone, but no permanent improvement followed, and the man was sent to the Hospital for the Insane at Halifax. While in the hospital he developed a fever, the nature of which was not known at the time, but which was afterward found to be due to an exacerbation of a latent tuberculous process. The interest of the case centres in this attack of fever, for during its continuance the axillary temperature differed on the two sides of the body, sometimes very little but often as much as a degree. Almost always the temperature on the right side, the side opposite to the injury, was higher than that on the left, yet this was not invariably so, for sometimes the two sides were alike, and on a few occasions the temperature of the left side was higher than that of the right.

The existence of a heat-regulating centre in the cortex of the cerebrum is believed in now by most physiologists, but the experiments and clinical facts upon which such a belief is founded are not always in accord, and many more facts, both clinical and experimental, must be collated and studied before our knowledge of the subject can approach anything like a satisfactory stage. Dr. Hattie's explanation of the phenomena in his case lies in the assumption that a heat regulating centre actually exists in, or very near to, the motor area of the cortex cerebri, and that injury in the neighborhood may bring about more or less complete disorganization of this centre. The inconstancy of the difference between the temperatures of the two sides was a notable feature in the case, and made its solution more difficult. But we well know, the author says, that a disordered mind is liable to constant

variation, and we must look upon mentalization as a function of the cerebrum. Why, then, he asks, should not the heat-regulating function be as prone to variation when disordered as any other brain function?

MORPHINE IN HEART TROUBLES.

THE use of morphine in painful aortic affections is well known. The *Semaine Médicale*, December 30, 1891, calls attention to the efficacy of hypodermic injections of morphine, the strength varying from 0.005 milligr. to 0.02 centigr., in cases of mitral disease where there is asystolia, intense pain, dyspnœa, nervous phenomena, and even impending death. It steadies the fluttering heart, strengthens its action, provokes diuresis, diminishes œdema and anasarca, and brings about a temporary resurrection when all other remedies have failed.

JAMBUL IN DIABETES MELLITUS.

A CURIOUS instance of the different effects obtained by different observers in the use of a new remedy is afforded by a review of the use of jambul in the treatment of diabetes by Mr. George Foy, in the *Medical Press* for January 13, 1892. The drug was first brought to the notice of English physicians in a communication from Mr. H. E. Ranatoola to the *Midland Medical Miscellany*, in February, 1883. He had tried the drug in four cases and reported that it decidedly lessened the quantity of urine secreted, and that the sugar disappeared in every case while the patient was taking the drug. Not much notice was taken of this paper at the time, but four years later Dr. George C. Kingsbury reported a case of great benefit from the use of the drug, in a letter which attracted wide attention. The report was republished in a number of journals, and many communications appeared from other observers detailing almost wonderful cures. Everything, Mr. Foy said, seemed to show that a valuable remedy had been discovered, when a letter was published from Dr. J. M. Coles, in which a case was related of apparent aggravation of the disease under jambul. The patient while taking the drug had the quantity of her urine trebled and the amount of sugar raised to 40 grains to the ounce. On discontinuing the jambul the specific gravity of the urine fell from 1.040 to 1.030; the amount of sugar diminished to 17 grains in the ounce, and the quantity of urine passed fell to 5 or 6 pints in the twenty-four hours. Then followed a number of unfavorable reports which seemingly proved that not only was the drug of no benefit in glycosuria, but that it was often even injurious. And that is where it stands to-day—some physicians have found jambul almost a specific, others have failed to obtain any good results even in carefully selected cases and with perfectly pure samples of the drug.

Probably as good a statement as any of the present position of the remedy in the therapeutics of diabetes mellitus was made by Dujardin-Beaumetz at a recent meeting of the Therapeutical Society of Paris, with a notice of which Mr. Foy begins his article. He had given jambul seeds in daily doses of 45 to 150 grains, but had found the results very variable. Diabetes associated with pancreatic disease was rather aggravated than benefited by the drug; but in milder cases, with a small percentage of sugar in the urine, the seeds were decidedly beneficial; the urine became lessened and the sugar disappeared. During the whole period of treatment the diet had to be carefully watched, as any recourse to farinaceous food would immediately be followed by a relapse.

THE DISTRIBUTION OF CIRCULATORY DISEASES IN THE UNITED STATES.

IN the Report of the Surgeon-General of the United States Marine Hospital Service for the year 1891, Dr. Charles E. Banks continues his interesting studies in the medical statistics of the service. In the present Report he discusses the subject of diseases of the circulatory system, in which are included peri- and endo-carditis, valvular disease, arteritis, aneurism, phlebitis, varicose veins, etc.

Among nearly half a million of sailors treated for various diseases during the past ten years, 5,291, or 1.2 per cent., have been diseases of the class mentioned. The patients were distributed all over the country, and the interesting fact is brought out that the proportional number of cases and the highest ratio of mortality is on the Pacific coast, the Middle Atlantic States coming next, and the Ohio and Mississippi Valley being the lowest on the list.

Valvular diseases constituted forty-six per cent. of the cases, and here the ratio in the Pacific stations was still higher, as the following table shows:

	Total of all cases.	Valvular diseases.	Mortality.	Death-rate.
North Atlantic	38,824	326	28	8.5
Middle Atlantic	50,091	417	42	10.0
South Atlantic	75,466	397	24	6.0
Gulf	49,095	301	24	7.9
Ohio	51,135	160	13	8.0
Mississippi	43,720	204	34	11.7
Great Lakes	95,185	406	22	5.4
Pacific	27,748	243	47	19.0
Total	431,264	2,454	234	9.5

The average death-rate from valvular disease throughout the service districts is seen to be 9.5 per cent., while in the Pacific district the rate is just twice as high, being nineteen per cent., which is a striking difference. The next section in the high mortality column is the district of Mississippi, which shows 11.7 per cent., and the lowest is the Great Lakes, with 5.4 per cent.

The preponderance of aneurisms on the Pacific coast is still more striking. Although in the service there the number of patients was but one-sixteenth of the total, the number of aneurisms was one-sixth, and the mortality rate is nearly treble that of Mississippi and the Great Lakes. This is a fact which has been shown before this by Dr. John B. Hamilton, and is one to which the Pacific coast physicians might turn their attention with profit.

It may be noted that so far as the past year's statistics show, there is no excessive prevalence of syphilis in the Pacific States. If anything, there is more of it in the region of the Great Lakes.

A New Hospital for Chicago.—The Scotchmen in Chicago propose to erect a hospital to commemorate their beloved poet, which is to be called the Burns Free Hospital.

News of the Week.

Grip Mortality.—According to the State Board of Health Mortality Report just issued, out of a total of 123,878 deaths in New York State during 1891 it is estimated that 10,000 were due to influenza. The death-rate for zymotic diseases was 178 per thousand as against 169 per thousand last year. The average for the past five years is 193. The deaths from influenza were distributed over the whole State.

Living with a Ruptured Heart.—Dr. E. Rouse Rouse reports in *The Lancet* of February 6, 1892, a remarkable case of survival for a week with rupture of the heart. The man, who was fifty-two years old, short and plethoric, was playing foot-ball when he suddenly fell down in a sort of faint. In a few moments he recovered and continued his play. Soon after the game was over he had another and more severe attack, accompanied by pain in the cardiac region. When seen a few minutes later he was in a condition of partial collapse, with shallow breathing, almost imperceptible pulse, and very severe pain over the heart. He gradually improved and was able to sit up, but seven days later he had another fainting fit and died. At the autopsy the heart was found to be fatty, degenerated, and very friable, and in the wall of the left ventricle was a rupture half an inch in diameter. It seems most probable that the rupture at first was very minute or partial, not allowing the escape of blood into the pericardium, and that a week later some extra exertion caused a completion of enlargement of the rupture, resulting in escape of blood and death.

Typhus Fever in London.—In a recent report by the medical health officer of London, Mr. Shirley Murphy, it is stated that typhus fever is steadily on the decrease in that city. In 1881 there were 92 deaths from the disease, while in 1890 there were but 11 deaths reported. There are, however, probably a few more than this, some sporadic cases being occasionally overlooked.

An Hygienic Labor Congress.—The next annual meeting of the French Labor Party is to be devoted to a discussion of hygiene as it affects the workingman. The subject is to be divided into three parts—food, habitations, and workshops—on each of which there will be a general discussion, opened by a recognized sanitary authority and continued by the delegates.

The Dose of Paraldehyde.—Dr. J. Noer writes: "In the MEDICAL RECORD of February 13, 1892, you made me say: 'I have never ventured to give more than four grains at a dose, and have in second instances succeeded with two or three grains.' In this sentence grains should read grammes, second should be some."

The Medical Association of Georgia will hold its forty-third annual session in Columbus, Ga., on April 20, 21, and 22, 1892.

An Underproduction of Quinine.—In an article on the quinine trade in the *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch Indie*, for October and November, 1891, Mr. Winning publishes a series of statistics upon the production and consumption of cinchona in different parts of the world, together with the estimates for the next three years. According to these figures there was more quinine consumed than was produced in 1891, and the writer thinks that the disproportion will be even greater in the immediate future. That more of the drug is consumed at the present time than is actually needed can hardly be questioned, and no doubt a very slight increase in price would speedily cut down its use and bring it within the limits of supply. The profit in cinchona cultivation has been very small for some years past, and the planters would doubtless welcome any increase in the price of bark, however small it might be. But quinine now has too many rivals, and no amount of underproduction could ever bring back the enormous prices it once commanded.

The Meanest Man in Great Britain has been found. His discovery was due to a suit to recover the amount of a bill for medical services brought by his physician. The man had ample means and held several official positions in the county and town administrations. But it appears that he was connected in some way with some extensive quarries in the place, and had been made an honorary member of the quarries' benefit club of which his family physician was surgeon. His defence was that he was entitled to the services of his family physician free, as being an honorary member of this club, although he paid very much smaller dues than the regular members. The court very promptly overruled this defence, and then he put in a more valid, but equally mean plea, and finally succeeded in avoiding the payment of about seventy-five per cent. of the claim.

Postage Stamps and Influenza.—A correspondent of *The Lancet* suggests that influenza may be spread largely through the agency of postage stamps. He recalls a number of instances in which the disease followed the receipt of a letter from an infected place, and thinks that possibly the source of the infection was the saliva used to moisten the gummed surface of stamps and edges of envelopes, the mucilage perhaps being a suitable menstruum for the development of bacilli.

The West End Medical Society.—At the annual meeting of The West End Medical Society, held February 6, 1892, the following officers were elected for the ensuing year: *President*, Dr. F. J. Bowles; *Vice-President*, Dr. G. W. Leonard; *Recording Secretary*, Dr. F. Spencer Halsey; *Corresponding Secretary*, Dr. H. G. Myers; *Treasurer*, Dr. S. V. Ten Eyck; *Pathologist*, Dr. C. N. Dowd.

Professor Wilhelm Krause has been called to fill the newly created chair of Anthropology in the University of Berlin. He was formerly, for upward of thirty years, Professor of Anatomy in the University of Göttingen.

Leprosy in the United States of Colombia.—The Colombian government has become alarmed at the rapid increase of leprosy in that country, and is considering the advisability of establishing a leper colony on one of the islands off its coast. In two of the States alone the number of lepers is estimated at 30,000.

A Prize for an Essay on Demography.—Dr. Joseph Körösi, of Buda-Pesth, has offered a prize to the value of $300 for the best essay on demography and its progress in Europe and America. The award will be made at the

opening meeting of the next International Congress of Hygiene and Demography, at Buda Pesth, in 1894. The essays, which may be in English, French, German, or Italian, must be sent in not later than January 1, 1894.

The Annual Benefit of the German Poliklinik took place on February 23d, at the Metropolitan Opera House, under the management of Mr. Augustin Daly. A very interesting programme, consisting of a comedy in English by Daly's company, as also a farce by Von Raven by Mansfield's company in German, excellent singing by Miss Koschoska, and Mr. Borosch; violin solos by Mr. Dick; cornetist Seifert; Paula Loewe in Vienna songs, and Miss Amelia Glover in America's greatest dancing. The orchestra was splendidly managed by Nahan Franko. Last, but not least, Miss Barkany must not be forgotten. Both Poliklinik and Mr. Daly are to be congratulated on the excellent result of the performance, which bids fair to lessen the mortgage of the Poliklinik buildings.

Dr. W. J. Morton has been appointed Neurologist on the Medical Board of the Randall's Island Hospitals.

Prize of the Medical Society of the County of New York.—Members of the Medical Society of the County of New York are herewith invited to compete for the annual prize of one hundred dollars, or a hundred dollar gold medal, awarded for the best essay on any medical or surgical subject, by the County Society, at its annual October meeting, the award being subject to the following conditions: 1. The competitor must be a member of this County Society in good and regular standing. 2. The competitor's identity must not be revealed until after the report of the Committee on Prize Essays has been presented at the annual October meeting, each essay in competition being designated simply by a motto, and accompanied by a sealed envelope exhibiting the same motto and enclosing the author's name. 3. If in the judgment of the committee no essay is presented that is sufficiently meritorious no award will be made. All competing essays should be sent to the chairman of the committee on or before October 1, 1892.—E. B. Bronson, M.D., Chairman Committee on Prize Essays, 123 West Thirty-fourth Street.

The Administration of Bromoform.—The usual prescription of bromoform with alcohol, syrup, and water is unsafe, owing to the insolubility of the drug in water, and the danger, therefore, that the last dose from the bottle will contain all or the greater part of the drug. In a note in the *Pharmaceutical Record* of February 11, 1892, Mr. P. W. Bedford states that he has found glycerine to be an excellent solvent for bromoform, and he recommends the following as a serviceable formula, making a stable mixture:

℞.	Bromoformi	℥ xvj.
	Alcoholis	f 3 ij.
	Glycerini	f 3 xij.
	Tinct. cardam. co	f 3 ij.
M.		

If mixed in the above order it is a perfect solution, pleasant to the taste and the eye. Each fluidrachm contains one minim of the bromoform in perfect solution. The relative amount of bromoform in the formula must not be reduced in the prescription by syrup or water, though glycerin may be added in any quantity without precipitation. The particular caution is that in dispensing it there shall be no water in the mixture.

Improved Tuberculine.—A Berlin newspaper of recent date states that Professor Koch has made another important improvement in his fluid and that he believes yet that it can be made serviceable in the treatment of tuberculosis.

The Opening of the Langenbech Haus in Berlin will take place formally this spring during the annual meeting of the German Surgical Society. This is the building which has been erected as a place of meeting of all the medical societies in Berlin.

The Colombat Prize.—A sum of 10,000 francs ($2,000) has been bequeathed to the Paris Académie des Sciences by M. Colombat, for the foundation of a biennial prize in medicine, more especially for works relating to diseases of the organs of speech or deaf-mutism.

Dr. Gustav Fritsche, editor of *Medycyna*, one of the leading Polish medical journals, died recently in Warsaw, at the age of fifty-two years.

The Report of the British Leprosy Commission is said to be approaching completion. It is understood that it will prove of a somewhat reassuring character so far as India is concerned, since at the present time the number of lepers of this dependency is under what it has been said to be, 50,000. The Commissioners are also of opinion that the disease is not of an hereditary character, and its propagation by vaccination is a very rare occurrence indeed. Leprosy is, according to the report, to be regarded as a specific disease. In Norway the disease is very much on the decline, owing to the segregation and rigid rules enforced by the Government, at the instigation of the profession, and it is thought that the disease will to a certainty be stamped out in a very few years.—*Medical Press.*

Reviews and Notices of Books.

A Manual of Venereal Diseases. By E. M. Culver, A.M., M.D., and James R. Hayden, M.D. Pp. 294. Philadelphia: Lea Brothers.

This work is didactic in style and very practical. Though condensed, it brings to the front the most important points of the subject. Part I., by Dr. Culver, discusses Gonorrhœa and its complications and non-specific sores. The technique of diagnosis and treatment is well described, and numerous formulæ and cuts and descriptions of instruments are given. The author is not radical in his recommendations, taking generally a pretty safe middle ground.

Part II., on Syphilis, is by Dr. Hayden. He treats his subject in a systematic and practical manner and gives a good epitome of accepted teachings. The book seems likely to be of considerable value, to both student and practitioner.

Manual of Chemistry. By W. Simon, Ph.D., M.D. Third Edition. Pp. 479. Philadelphia: Lea Brothers.

In this edition the original division of the work into seven parts is retained. The book gives a very fair outline of what a medical or pharmaceutical student

should know about chemistry, and has the advantage of serving equally for reference-book and guide to practical work. The colored plates illustrating reactions are correct and well executed, but, though useful, should not be allowed to take the place of actual experiments. The author is a man of large experience, both as a teacher and as a practical chemist, and his work deservedly takes a good position among the many devoted to this subject.

RECENT MATERIA MEDICA. Notes on Their Origin and Therapeutics. Fourth Edition. By F. HARWOOD LESCHER, F.C.S. Pp. 114. London: J. & A. Churchill.

THIS little work has now reached a fourth edition. It is concise and systematically arranged and is provided with a therapeutic index which adds to its value. The various remedies introduced within the last eight or ten years are taken up in alphabetical order, and briefly discussed, the opinions of numerous authorities being quoted and references to journal articles being made. In these days, when so many remedies are being added to our list, especially through the labors of synthetic chemists, an epitome of this kind seems likely to prove of considerable value to the busy physician.

A B C OF THE SWEDISH SYSTEM OF EDUCATIONAL GYMNASTICS. A Practical Hand-book for School Teachers and the Home. By HARTVIG NISSEN, Instructor of Physical Training in the Public Schools of Boston, Mass.; Instructor of Swedish and German Gymnastics at Harvard University's Summer School, 1891; formerly Instructor of Physical Culture at the Catholic University, Washington, D. C., etc. With 77 Illustrations. Philadelphia and London: F. A. Davis. 1891.

THIS is a work intended to guide the teachers of Swedish gymnastics in the school or home circle. The first two chapters are devoted to an explanation of the different exercises and of the mode of employing them, together with a definition of the terms used. The third chapter contains a table of graduated daily exercises for a course of thirty-three weeks. The explanations are simple and easily understood, and the book appears to be well adapted for use as a primary text-book of Swedish educational gymnastics. The author is an authority on the subject treated, and he has done good service to the cause of health in school-children by the preparation of this little book.

TEXT-BOOK OF PRACTICAL ANATOMY. By HENRY C. BOENNING, M.D., Lecturer on Anatomy in the Philadelphia School of Anatomy; Demonstrator in the Medico-chirurgical College, etc. 8vo, pp. 487. Philadelphia: F. A. Davis. 1891.

THE object of this work is to assist the student in dissection as well as in the class-room. It is not a compilation but has been made up from the author's own work. We do not look for much heterodoxy in works on anatomy, and so far as the present one is concerned we have to commend its simplicity of style, the clearness of most of its woodcuts, and the thoroughness with which the ground is covered.

COMPEND OF PHYSIOLOGY. By WILLIAM J. WATKINS, M.D. Pp. 243. Published by the Author at Louisville, Ky. 1891.

WE are informed on the title-page that this is the first edition. A second will probably not be called for. The author has endeavored by the "question and answer" plan to comprise the whole of physiology within these narrow limits. So far as an outline thereof is concerned there are other books of the class which we think far better. His questions are often useless and the answers too short to be of any service to the student. Such books do the cause of medical education more harm than good.

DISEASES OF THE LIVER. By J. COMPTON BURNETT, M.D. Pp. 186. Philadelphia: Hahnemannian Publishing House. 1891.

THIS is a compilation of clinical histories of various forms of liver disease, with a general discussion of the effects thereon of the various agents in the homœopathic pharmacopeia.

SAUNDERS'S POCKET FORMULARY. By WILLIAM M. POWELL, M.D., Author of "Essentials of Diseases of Children," Associate Editor of the "Annual of the Universal Medical Sciences," Attending Physician to the Children's Seashore House for Invalid Children, and Mercer House for Invalid Women, at Atlantic City, N. J., etc. Pp. 261. Philadelphia: W. B. Saunders.

THIS little book, that can conveniently be carried in the pocket, contains an immense amount of material. Besides the hundreds of prescriptions for every conceivable complaint, compiled from the best authors and also including the newer preparations of medicine, there is an appendix containing posological table, formulæ, and doses for hypodermic medication, poisons and their antidotes, diameters of the female pelvis and fœtal head, diet list for various diseases, obstetric table, materials and drugs used in antiseptic surgery, etc. It is very useful, and, as the name of the author of each prescription is given, is unusually reliable.

THE DOCTOR'S LEDGER. Copyrighted and Published by C. A. Price, Jersey City, N. J.

THIS is a handsome and very convenient ledger for a doctor's use. Its keeping is simplicity itself, and yet a glance shows the exact status of any account.

SYLLABUS OF THE OBSTETRICAL LECTURES IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA. By RICHARD C. NORRIS, A.M., M.D., Demonstrator of Obstetrics, University of Pennsylvania; Physician to the Methodist Episcopal Hospital, Obstetrical Registrar Philadelphia Hospital. Second Edition. 12mo, cloth, pp. 198. Philadelphia: W. B. Saunders.

THIS is the second edition of a popular work of immense value to students. It is an abstract of obstetrical lectures interleaved and so arranged as to give a good outline of work to be filled out in the class-room. The second edition has notable additions to the chapters on infant feeding, pathology of the puerperium, obstetric operations, and dystocia.

THE HISTORY OF CIRCUMCISION FROM THE EARLIEST TIMES TO THE PRESENT; MORAL AND PHYSICAL REASONS FOR ITS PERFORMANCE. WITH A HISTORY OF EUNUCHISM, HERMAPHRODISM, ETC., AND OF THE DIFFERENT OPERATIONS PRACTISED UPON THE PREPUCE. By P. C. REMONDINO, M.D. (Jefferson), Member of the American Medical Association, of the American Public Health Association, of the San Diego County Medical Society, etc. Pp. 346. Illustrated. Philadelphia and London: F. A. Davis.

THIS is No. II. in the Physicians' and Students' Ready Reference Series. The book serves a double purpose, that of completely elaborating a useful subject, and at the same time being rich, rare, and racy reading, something the tired practitioner can sit down to and thoroughly enjoy. The title is an index of the contents. Those chapters that treat of the relations of the prepuce with syphilis, phthisis, cancer, calculi, neuroses, and urinary diseases, are worthy of special praise and deserve careful reading.

An Honest Confession is Good for the Soul.—Koch stated in a recent communication that the action of tuberculin was not exactly what it should be.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 8, 1892.

THE PRESIDENT, GEORGE L. PEABODY, M.D., IN THE CHAIR.

Embolism of the Pulmonary Artery in Childbed.—DR. E. L. PARTRIDGE read the paper (see p. 234).

DR. F. P. KINNICUTT thought he had once seen a case of embolism of the pulmonary artery in childbed which recovered. The attack came, as usual, with great suddenness and with all the symptoms which the author had described, lasted several days, and disappeared. During its presence the patient's condition was most alarming. Nothing had been done, such as giving a vaginal douche, etc., which might have caused the attack.

DR. BEVERLEY ROBINSON recalled some observations on clots in the right heart and pulmonary artery which he had made when interne in a hospital for children in Paris, the cases occurring in children who had died of diphtheria. The observations had formed the basis of his thesis at that time. He could not say that they had any special bearing on Dr. Partridge's paper, but he would state that in children who had died of diphtheria he often found blood-clot in the right heart, which also often extended into the pulmonary artery, and he was unable to determine at the time when the latter condition existed, whether it was due to damming back of the blood in the artery because of complicating pneumonia, or to anæmia, or some other cause. He also noticed some change, in part of the cases, in the tricuspid valve, but made no effort to explain it. He could not recall having seen a positive case of pulmonary embolism, although he had seen several cases, in which that condition was suspected. It was doubtful, he thought, whether we could differentiate positively during life between pulmonary embolism and thrombus in the right heart cavity. If there were conditions favoring embolism, and great cardiac distress arose, we might assume that the condition was one of pulmonary embolism, but that was as near as we could arrive at a diagnosis ante mortem. He had seen no case in childbed.

DR. J. WEST ROOSEVELT said that, so far as embolism of the pulmonary artery in childbed was concerned, he knew nothing. As to the artery or one of its branches going to a considerable portion of a lung becoming blocked by an embolus proceeding from a uterine sinus or any vessel of ordinary size, he did not believe it was possible. He had never seen but one case of embolic obstruction of the larger pulmonary arteries. It occurred in a patient who had erysipelas of the left side of the face and an enlarged gland on the left side of the neck. The erysipelas was subsiding when the patient suddenly began to have cough and prune-juice expectoration; temperature, 104° to 107° F.; little dyspnœa; dulness on the left side of the chest from top to bottom. The patient showed signs of intense sepsis, and died between one and two days. The left pulmonary artery was found thrombosed, including the larger branches. The skin had been somewhat purplish. He only mentioned the case as illustrating to what extent thrombosis of the pulmonary artery might exist, and yet not cause very marked dyspnœa. It was inconceivable how a large pulmonary artery could become obstructed by a thrombus or embolus, and the obstruction be removed without first breaking down of the lung-tissue, for the pulmonary arteries were absolutely terminal.

With regard to the physical signs, he might say that in the few cases of pulmonary thrombosis or embolism following experiments which had come under his observation, they were definite enough. Extensive hemorrhagic infarctions would be followed in a short time, say an hour or two, by complete splenification of the involved lung, showing absolute dulness and absence of breathing. If it were possible for an embolus of sufficient size to reach and obstruct the main pulmonary artery, it would, of course, rapidly cause a fatal termination. It would have to be derived from as large a vessel as the iliac vein in order to block a branch of the pulmonary artery of considerable size. He thought it was assuming a great deal to say that a fibrinous clot found in the right side of the heart had been due to a pulmonary embolus with damming back of the blood. He had seen a decolorized clot in the heart in a few cases where the patients had died without a single symptom of interference with the heart's action. In one case the autopsy was made within an hour after death, and in another within an hour and a half. Clotting would occur very soon post mortem.

As to the symptoms in the cases related in the paper, he thought it was quite possible they had nothing to do with clotting in the pulmonary artery at all, but were due to some fault in the heart. While a clot as large as one's little finger might occlude a pulmonary artery and cause dyspnœa, yet with the dyspnœa there would also be evident physical signs. But multiple embolism might occur throughout the lungs and cause no symptoms during life. He had a specimen in which three-fourths of the lungs were shut off by hemorrhagic infarctions, yet during life there had been no symptoms of obstruction. It seemed, then, that in reported cases of embolism of the pulmonary artery in childbirth, there could have been but the following sources of the embolus, namely, the superior or inferior cava, or, more likely, the right heart; for in those places only could an embolus form large enough to produce such occlusion.

DR. CLEMENT CLEVELAND said he had never seen a case of embolism of the pulmonary artery, but it seemed to him the author's views on the etiology of the condition were most plausible. The woman had received a uterine douche. Violent contractions probably took place, clots were forced out together with serum, and inasmuch as clots could be dislodged elsewhere and carried to distant parts, he knew of no reason why they might not start from the uterine or ovarian vein and proceed to the pulmonary artery.

DR. KINNICUTT added that, whatever might be the mechanical difficulties in accounting for embolism of the pulmonary artery, it was still true that the symptoms described by the author did sometimes occur in childbed, among them being profound and unusual cardiac distress. And such cases occurred, too, where the heart was apparently perfectly normal. Seeing the cardiac distress and uterine condition occurred together, it seemed to him there must be some anatomical relation between the two, and it was not improbable that embolism of the pulmonary artery did actually take place.

DR. ROOSEVELT remarked that he did not wish to say an embolus might not have been present, but he did not think one from the uterine sinus could occlude the pulmonary artery.

DR. PARTRIDGE, in closing the discussion, said he did not suppose that a clot arising from the ovarian, or even femoral or iliac veins, could of itself, without other conditions, cause sufficient obstruction of the pulmonary artery to prove fatal. But immediately after lodgement of the embolus, the conditions were such that thrombotic deposits began to take place back toward the heart and in the branches of the artery, until death ensued. Moreover, if he understood Dr. Roosevelt correctly, he had spoken of cases where the clot in the right heart had been insignificant as compared with that in the pulmonary artery, which might point to the lesion in the artery as being primary and fatal. The heart obstruction must have been insignificant, for the patients had died without a cardiac murmur of any kind. Pathological and clinical facts would outweigh theory. In about half of the reported cases there had previously existed thrombosis of the femoral or iliac vessels, which made it more than

probable that the cardiac and pulmonary symptoms had a similar origin. As to the size of the uterine vein after labor, it had a diameter of that of a large goose-quill, probably of about the size of the third or fourth division of the pulmonary artery. But it was not so much a question of the size of the embolus, but the fact that its lodgement was followed by rapid coagulation of blood and deposit of clot backward toward the heart.

The discussion on the treatment of typhoid fever was then taken up, to be continued at the next meeting, when the full report will appear.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 23, 1891.

H. P. LOOMIS, M.D., VICE PRESIDENT, IN THE CHAIR.

Rupture of the Cystic Duct.—DR. GEORGE P. BIGGS presented specimens showing the rupture of the cystic duct. The patient, a colored woman, fifty-nine years old, had had, one month previous to her last illness, an attack of cramp-like pains in the upper part of the abdomen, and these were similar to those which ushered in the present illness. Four days previous to her admission to the New York Hospital she was suddenly seized while at work with cramps in the upper part of the abdomen, and on the following day this pain was succeeded by a soreness which steadily increased in severity. On the first day there was a chill, followed by fever, and this was repeated on the third day. The prominent symptoms were vomiting, constipation, abdominal distention, dyspnœa, and prostration. At the time of her admission the conjunctiva was markedly jaundiced, the chest was full of moist râles, and the heart action was so rapid and feeble that the heart-sounds could not be heard. The abdomen was distended and tender. Pulse, 96; respirations, 30; temperature, 101.4° F. On the evening of the same day, her temperature rose to 104.4° F., the respirations reached 52, and the pulse 132. She died the same night, the temperature just before death being 107.2° F.

At the autopsy, which was made fourteen hours after death, the abdomen was found to be greatly distended and the peritoneal cavity was filled with a dark brown, bile-stained fluid, having a slightly fecal odor. The intestines were matted together by abundant recent fibrinous exudation, and the liver and spleen were united by recent adhesions. The vermiform appendix and cæcum were normal. The pleural cavities each contained three ounces of thin serous fluid, and the lungs were congested and œdematous. The heart-muscle, though soft and flabby, presented no apparent structural change. The orifice of the common bile-duct was about the size of a goose-quill, and just inside of the opening a large gall-stone was impacted. It was ovoid in shape and about one and a half centimetre in diameter. When pressure was made on the collapsed gall-bladder, a few drops of bile and a small quantity of gas escaped into the peritoneal cavity from the cystic duct, just at its origin at the gall-bladder. An oblique perforation was found at this point, which readily admitted a small probe. Upon opening the gall-bladder and gall-ducts the point of perforation was found to be in the base of an old ulcer, about three-quarters of a centimetre in diameter, situated in the cystic duct just below the neck of the gall-bladder. The edges of the ulcer were hard and smooth, and its base necrotic. Careful search at the point of perforation in the gall-bladder, the gall-ducts, and in the peritoneal cavity failed to show the presence of any other gall-stone. The cystic, hepatic, and common ducts were all much dilated, the latter admitting a cylinder one centimetre in diameter. The gall-bladder, which was collapsed, measured five centimetres in diameter. Its muscular walls were considerably hypertrophied and its mucous membrane thickened from chronic inflammation. At its neck was a superficial ulceration. The liver was of a greenish-yellow, the left lobe being much atrophied. The bile ducts were distended with greenish bile, and the liver-cells showed considerable fatty change. The ulcer through which the perforation had occurred was apparently an old one, and must have been produced by the stone found at the opening of the common duct. The hypertrophy of the walls of the gall-bladder prevented its dilation and caused great distention of the gall-ducts.

DR. H. P. LOOMIS thought the specimen one of unusual interest. In a recent review of the literature of diseases of the gall-bladder and ducts he did not recall having seen the report of a similar case.

A Myxo-chondro-sarcoma of the Leg.—DR JOHN S. ELY presented a section of a myxo chondro-sarcoma of the leg. The specimen had been removed from a woman, twenty years of age, and was of interest both on account of the rapidity of its growth, and the details of its structure. The patient had suffered from pain in the calf of the leg in May, and soon afterward she noticed a lump, which grew so rapidly that by the middle of July the tumor was removed by operation and the bone thoroughly scraped. Dr. John S. Thacher reported the growth to be a myxo-chondroma, "with here and there a suggestion of sarcoma." The growth quickly recurred, and on September 7th the greater part of the fibula was removed along with a tumor measuring 12 x 5 x 4 ctm.

The specimen presented to the society was taken from the periphery of this growth. It showed much tissue which was unquestionably sarcomatous, but mucous and cartilaginous tissue predominated. This is interesting in connection with the belief entertained by many that chondromata frequently recur as sarcomata. As both belonged to the connective-tissue group of tumors, there is nothing inherently impossible in such a supposition, and it is known that in very rapid growth cells are not uncommonly diverted partially from their ordinary destiny and modified in their function. But, on the other hand, it seems unlikely that a cell so highly differentiated as the cartilage cell should undergo so readily the decided change which would be involved in its conversion into a sarcoma cell, and therefore the speaker inclined to the opinion that the sarcomatous element in these cases is present from the first, though undoubtedly overshadowed by the more abundant tissues.

The specimen also illustrated the various stages in the growth of cartilage. At the periphery of the tumor it is represented by little more than a mass of cells huddled together, without visible intercellular substance. By examining in succession the more central portions of the tumor one can see, as the result of the deposition of a hyaline matrix about the cells. the gradual merging of this into a tissue closely resembling normal hyaline cartilage.

Stated Meeting, October 14, 1891.

H. P. LOOMIS, M.D., VICE-PRESIDENT, IN THE CHAIR.

Simple Photo-micrography.—DR. F. ABBOTT, JR., presented, on behalf of Dr. J. M. Byron, a number of photo-micrographs as illustrations of what can be done in this line of work without any elaborate or specially designed apparatus. An ordinary microscope and camera were employed, the source of illumination being direct sunlight transmitted through yellow glass. Moderately quick acting orthochromatic plates were used for the production of the photographic negative. The average exposure was five seconds, and the magnifying power was about 1,200 diameters.

THE VICE-PRESIDENT remarked that he noticed among the photographs one of the lepra bacillus. So far as he knew, this was the first time this bacillus had been photographed in this country.

Intestino-peritoneal Septicæmia.—DR. H. P. LOOMIS presented specimens from a case of intestino peritoneal septicæmia. The patient, a man, thirty-eight years of

age, while sitting in a chair, was shot with a 38-calibre pistol-ball, which entered the left lumbar region and passing over the descending colon was deflected upward by the left ilium into the lumbar muscles. Six hours after the injury laparotomy was performed at Bellevue Hospital by Dr. Woolsey, and eleven perforations in the jejunum and ileum were closed by horse-hair sutures. The patient recovered well from the shock of the operation, and during the next three days had but little elevation of temperature and only such pain as was attributable to the wound of the abdominal parietes. There was some nausea, but no vomiting. On the fourth day the temperature suddenly rose to 105.5° F., accompanied by a small and rapid but not wiry pulse; the abdomen was moderately distended but painless, and there was constant nausea and some vomiting. The patient was perfectly rational up to his death on the evening of the fourth day after the injury. At the autopsy, which was made ten hours after death, the abdominal cavity was found to be free from any effusion or evidence of peritonitis, and there was no leakage from the intestinal wounds, which appeared healthy.

The clinical history and the post-mortem appearances seem to place this case among those recently described by Verchère under the name of "intestino-peritoneal septicæmia."[1] In these cases death is supposed to be due to the escape into the peritoneal cavity, at the time of the perforation of the intestine, of either intestinal gases or of microbes. The result is the formation of ptomaines, which, when absorbed, give rise to the fatal septicæmia.

Rupture of the Uterus.—Dr. H. P. Loomis presented a specimen from a case of rupture of the uterus. The patient was a woman about thirty-five years of age, who, when brought into Bellevue Hospital, was so seriously ill that a thorough examination was not made. She was found to be pregnant at full term, and from the odor of the vaginal discharge and the presence of some fever it was supposed that there was puerperal fever and a dead, macerated fœtus. The case was seen by several physicians; and Dr. Lusk, who was present at the time, without making a personal examination, advised turning and immediate delivery. Just as the attending physician began to turn the child, the woman suddenly went into collapse, and died on the table.

At the autopsy, made about thirty hours after death, the fœtus was found free in the abdominal cavity. There were no evidences of peritonitis. On one side of the uterus, near the utero-vaginal junction, was a rent almost large enough to admit the closed fist. On opening the uterus, there were no signs of septicæmia found, and nothing to explain the odor of the vaginal discharge. At the symphisis there was a large bony excrescence projecting into the pelvis, and the pressure of the contracting uterus upon this may possibly account for the rupture. There seemed to be no degeneration of the uterine walls.

Dr. George C. Freeborn suggested that during the manipulations incident to turning the cervix, which appeared to be very much thinned, might have been thrown toward one side, and so forced against this bony prominence at the symphisis.

Dr. R. H. Sayre remarked that the case appeared to be an argument in favor of the view now entertained by some modern gynecologists concerning the greater safety of Cæsarean section in these difficult and obscure cases, as compared with version.

Dr. Warren Coleman said that he was present at the time version was attempted, and the operator had told him that at the time the fatal collapse occurred his hand was in the uterus and was grasping the foot of the fœtus. Owing to the fact that no thorough examination had been made previously, the physicians were unable to agree as to whether or not the rupture had existed prior to the attempt made to turn the child.

Traumatic Suppurative Pleurisy.—Dr. H. P. Loomis also presented the lungs from a case of traumatic suppurative pleurisy, with perforation of the diaphragm and discharge in the inguinal region. The patient, a boy of sixteen years, was in perfect health up to five weeks before his death. His illness began by his being struck by a base-ball on the right side, in the outer infrascapular region. He soon began to suffer from pain in the right side, accompanied by cough and slight fever. His condition became rapidly worse; there was loss of flesh, high fever, cough with foul-smelling expectoration, and ten days before his death an abscess discharged in the right inguinal region, just above Poupart's ligament. As the glands in this region were enlarged, the suppuration was supposed to be of tubercular origin, and the case was considered to be one of acute phthisis.

At the autopsy, which was made eight hours after death, the right pleural cavity was found to contain a quantity of thick pus. The abscess track extended through an opening in the anterior portion of the diaphragm over the anterior surface of the liver, and the outer and anterior surface of the ascending colon, terminating at the opening above Poupart's ligament. It was shut in by adhesions, and there was no general peritonitis. The lower lobe of the right lung was consolidated, and grayish areas of consolidation were scattered through the right middle lobe and the left lower lobe. The gross appearance was like that of tubercular pneumonia, but the microscopical examination showed the pneumonia to be of the catarrhal form, unaccompanied by bronchitis.

The manner in which the pleural cavity was drained is worthy of note, as was also the absence of any general peritonitis. The clinical history and the physical signs closely simulated those of acute pulmonary tuberculosis, with the formation of a cavity on the right side. When the case was first seen there was but little pus in the right pleural cavity, and no succussion could be obtained.

The Society then went into executive session.

Stated Meeting, October 28, 1891.

H. M. Biggs, M.D., President, in the Chair.

Effects of Dead Tubercle Bacilli on the Body-cells.—Dr. T. Mitchell Prudden presented a series of specimens illustrating the effects of dead tubercle bacilli on the body-cells. He and Dr. E. Hodenpyl had made an experimental study of these effects, and he desired to present a brief outline of the work. For some time past it has been known that certain substances when brought into contact with living cells had the power of drawing these cells to them, or of driving them away. This power does not seem to be dependent upon the tactile sensibility of living cells, particularly the leucocytes, but upon chemical action. This phenomenon has been given the name of "chemotaxis," and is designated as *positive* or *negative*, according as the cells are attracted or repelled. Many substances were tested in regard to their chemotactic power, and particularly the bacterio proteins. It has been shown that when bacteria die, and their bodies disintegrate, they have the power of attracting leucocytes, and it has also been shown that under certain conditions dead and disintegrating bacteria stimulate certain cells to proliferation.

About one year ago it had occurred to Dr. Prudden and Dr. Hodenpyl that, owing to the peculiar effect which the tubercle bacillus had upon the body, it might prove instructive to investigate the effects produced by the bacterio-protein of this bacillus. The experiments were begun by securing large amounts of cultures of the tubercle bacilli. Ordinarily, the time required to kill this bacillus by the usual sterilizing process by steaming is fifteen minutes, but to make sure that their vitality was completely destroyed they were subjected to the process of steaming for varying periods, the shortest time being two and a half hours, the longest five hours, and the average four

[1] Revue de Chirurgie, 1888, p. 559.

hours. Strange to say, the bacilli were found to stain just as well after this process as before, and, in short, they were morphologically unchanged. Great care was taken to remove from the outside of these bacilli all traces of the culture material and of chemical products by subjecting them to repeated washing and filtration.

Having certainly killed the bacilli, and freed them from extraneous substances, they were introduced into the body in various ways—beneath the skin, into the peritoneal and pleural cavities, into the blood-vessels, and into the lungs through the trachea. The first effect noticed was a marked positive chemotactic action exerted upon the leucocytes. The second effect was to stimulate to proliferation the body-cells in the region in which the bacilli had lodged; thus, if they lodged in the blood-vessels they would excite proliferation of the endothelium, if in the connective tissue a proliferation of the connective-tissue cells, if in the epithelium of the lungs a proliferation of these cells. In the latter case, not only was a distinct epithelioid tissue produced, but a stroma was formed, and in about ninety per cent. of the cases giant-cells were developed. The more finely divided the culture material the smaller would be the resulting lesion. Contrary to expectation, not once has caseous degeneration been observed in the many animals subjected to these experiments. The nearest approach to it has been an occasional necrosis of the leucocytes, which showed itself first in the body of the cells, the nuclei remaining intact, which is not the case in true cheesy degeneration. There is a gradual but steady conversion of these new areas into fibrous tissue, and as they change into cicatricial tissue contraction takes place, and the blood-vessels still remaining are made to gape widely. In a few cases calcareous deposits have been noticed in the newly formed tissue. Sometimes these areas will remain as epithelial nodules for two or three months.

The process which has just been described is probably due to the action of the bacterio protein, for at first the bacilli are well formed and can be stained, but gradually they become granular, and finally disappear, and about this time all active change seems to have ceased.

From the observations thus far made it would seem probable that the morphological changes produced in the body by the tubercle bacilli are due to the setting free of the bacterio-protein, for the lesions produced by this substance are, except for the cheesy degeneration, almost identical with those seen in tuberculosis. The bacilli are constantly being reproduced in tuberculosis, but there is no reason for believing that they are long-lived. It is true that no explanation has yet been offered for the caseous degeneration and the toxic effects occurring in tuberculosis; but it is not improbable that inoculations of bacterio-protein of the dead tubercle bacillus along with some material extracted from the cultures may give rise to these two as yet unexplained effects.

Dr. Prudden presented both gross and microscopical specimens to illustrate the experiments which he had just described. The specimens under the microscopes showed the first effect of the inter-tracheal injection of the dead bacilli, next the formation of the zone of new epithelioid-celled tissue and giant-cells around the collected leucocytes, and the gradual development of connective tissue.

In answer to a question from Dr. H. P. Loomis, as to whether similar results might not follow the injection of inert substances, Dr. Prudden said that they had made a long series of control experiments with inert substances, such as lycopodium and carmine, and with irritating substances, like red pepper, and with various bacteria, and had obtained entirely different results. The gathering of the leucocytes only initiated the process, and was not an essential feature. He knew of no other injection which had resulted in this cell proliferation. The experiments just described might have some bearing upon a subject which had been frequently discussed in the Society, viz., cases which they had been accustomed to call "healed phthisis." In these, nodules had been found at the apex, containing tubercle bacilli which could be stained. It was possible, in the light of these recent experiments, that such lesions might be produced by dead bacilli, or at any rate were not foci for fresh infection.

THE PRESIDENT asked if inoculations with the material from cheesy nodules had not in almost all instances produced tuberculosis.

DR. PRUDDEN replied that it had done so in many instances, but it could not be produced at will in this way in every instance. He thought that if a nodule pursued the course described in the experiments, and did not undergo cheesy degeneration, it might be regarded as a pseudo-tubercle.

A Method of Rapidly Collecting Deposits for Microscopical Examination.—DR. GEORGE C FREEBORN said that at the last meeting of the Congress of Internal Medicine, held at Wiesbaden last April, Dr. Littman, of Berlin, had presented a centrifugal machine adapted for the rapid separation of deposits from fluids for the purpose of microscopical examination. In the machine presented at that time a speed of nine thousand revolutions per minute could be obtained. Dr. Freeborn said that he desired to present to the Society a home-made machine of this description, which, although capable of only about nine hundred and fifty revolutions per minute, had answered admirably the purposes for which it was devised. He had taken the necessary gearing from an ordinary rotary drill, and this combined with a table clamp and a disk of sheet brass attached to the end of the spindle were all the essential parts. To the periphery of the disk of brass a number of wire gauze cylinders are pivoted, so as to hang vertically when the machine was at rest, but when the machine was in rapid motion, they would be thrown outward, just as are the balls of an ordinary steam engine governor. The fluids from which the sediments are to be collected are contained in small glass tubes, conical at the bottom. These tubes are introduced into the gauze cylinders, and the disk is then revolved rapidly. In this way, the sediment is thrown to the bottom of the collecting tubes, and may then be removed from them by means of a long and very slender capillary pipette. In some of Dr. Littman's experiments with urine it was found that by twirling the tube for four minutes, then decanting the urine into another tube, and repeating the process twice, the urine could be rendered absolutely free from sediment. Crystals could of course be very readily collected in this way, and enough casts for diagnostic purposes could be obtained in five minutes with this machine.

In order to demonstrate the action of his machine, Dr. Freeborn employed three different mixtures: one of lime-water holding in suspension very finely divided carbonate of lime, another of blood mixed with normal salt solution, and the third containing water and carmine. Putting the machine into action for about half a minute was sufficient to show an appreciable quantity of sediment at the bottom of the tubes. In ordinary urinary analysis, not only would this new method enable the microscopical examination to be made about twenty-four hours sooner than formerly, but it would effectually prevent the decomposition of casts which was liable to occur when the urine had to stand for many hours in order that the deposit might settle.

DR. J. S. THACHER presented a bladder showing the openings of four ureters. He also presented a heart showing a decided tricuspid and mitral stenosis and a very marked aortic stenosis. The history was interesting on account of the frequent variations in the cardiac murmurs. This was quite remarkable, even after making due allowance for errors in observation.

The patient gave the ordinary history of endocarditis, and of rheumatism, occurring at the age of thirty-six. Four years before death the first marked symptoms of cardiac disease were developed. The first note about the murmurs was, that there was a basic systolic murmur, later, a loud, double basic murmur with its maximum in-

tensity over the pulmonary area, still later, that there was a double murmur at the base and a mitral systolic murmur, transmitted slightly toward the axilla. Next, there was heard a double murmur at both base and apex. A few months after this it was noted that there was a double aortic and a double systolic murmur at the apex; later, a double murmur at the base, while at the apex the sounds were confused; next, there was a systolic murmur at the base, and a double murmur at the apex, which was conveyed down toward the sternum, and also that there was a diastolic murmur present. Finally, it was noted that there was a double murmur at both base and apex.

The patient had been tapped fifteen times in a period of one year and a half, and at each tapping from twelve to fifteen pints of fluid were removed. At first, the liver was noted as being of normal size, one month later, as three inches below the free border of the ribs, with considerable fluid in the pleural cavity. A few months after this, the record states that "the liver was pushed up," and some months later, after a severe attack of pain in the region of the liver, accompanied by elevation of temperature, it was stated that the liver was again several inches below the free border of the ribs. This was made shortly before death, and yet at the autopsy the liver was found to be of normal size. Dr. Thacher said that he had frequently noticed that where competent observers had recorded the liver as being enlarged, the autopsy had shown it to be normal in size and weight. In some of these cases, the enlargement might have been due to congestion, which subsided at the time of the patient's death, and so caused a rapid diminution in the size of the liver.

Dr. H. P. Loomis said that apparent changes in the size of the liver were frequently dependent upon the distention of the intestines, causing the liver to turn upward, and so give a marked diminution in the area of dulness.

Rupture of a Pelvic Hæmatocele during Delivery.—Dr. H. P. Loomis presented the uterus and vagina from a woman, thirty one years of age, who had been attended by a midwife, and delivered instrumentally. She was confined three days before her admission to the hospital and the husband states that the labor was difficult and that an operation was required. On admission, her condition was such as to preclude a thorough examination, and she died twelve hours later. At the autopsy, the abdominal cavity was found filled with bright fluid blood, and with large clots in the pelvis, on the left side, and behind and around the descending colon. There was no peritonitis. The hand could be passed through Douglas's cul-de sac into the abdominal cavity. This rupture had evidently been attended by a profuse hemorrhage which had caused death. Behind the lower portion of the upper part of the vagina was found the old and ruptured cavity of a pelvic hæmatocele, which was evidently extraperitoneal. The size of the hæmatocele was about that of an orange. There was also a small dermoid cyst of the ovary, which, however, was only incidentally of interest. It was difficult to say whether the rupture was caused by the pressure of the child's head, or by instruments.

The Society then went into executive session.

The International Health Association will meet in the city of Mexico, in November, 1892. The Association at present comprises the United States, Canada, and Mexico, but it is hoped that the Central American Republics will also join it at the next meeting. Dr. Watson, the secretary of the Association, while travelling in Mexico, induced the health authorities of that republic to enter into a plan of international and interstate notification of the outbreak of contagious and infectious diseases, such as already exists between the United States and Canada, by which every state, province, and town are immediately advised of the appearance of disease in any foreign locality, of its nature, the number of cases, and other particulars.

Clinical Department.

A CASE OF NASAL REFLEX.

By W. H. BATES, M.D.,

NEW YORK.

The patient suffered very much, was relieved by simple treatment, and was kept under observation a sufficient length of time to confirm the diagnosis.

Miss J——, an art student, aged eighteen, complained that she could not use her eyes for near work without great fatigue. After reading for a short time, she had considerable headache. In consequence she was compelled to stop her studies. Tonics and rest of the eyes gave her no relief. The condition grew steadily worse.

August 15, 1887.—Patient sees double at times, from insufficiency of the interni. Several weeks ago atropine was used and the eyes found to be nearly normal, requiring no glasses.

September 18, 1887.—The eyes are no better. Headaches still severe. After the application of cocaine to a sharp projecting point on the left side of the septum, the eyes felt better and the patient could read with more comfort. Ten minutes later, when the effects of the cocaine had passed off, the tired feeling in the eyes returned; cocaine was applied to other portions of the nose without relief. It seemed that this sharp spur was causing a reflex irritation in the eyes. Under cocaine this sharp point was removed with the nasal saw. Immediately the patient stated that the eyes felt very much better. She could now read diamond print with perfect comfort.

January 22, 1888.—Four months later, no more trouble with her eyes or head and has resumed her studies. It is interesting to note that the insufficiency of the interni is still present and that she has had several colds in her nose without affecting her eyes injuriously.

December 10, 1891.—Four years later the patient reports that she has had no trouble with her eyes until about three weeks ago. Last summer her nose was injured. A physician inserted at this time a probe into the left nostril to straighten the nose. The doctor was not sure that the nose was broken. Now she suffers so much from pain in her eyes that she is unable to work. The insufficiency of the interni is still present. An examination of the left nostril shows some projecting tissue on the site of the old operation. Under cocaine this was removed. The eyes felt relieved immediately.

January 31, 1892.—In a letter the patient reports that she has returned to work and that her eyes still feel relieved.

131 West Fifty-sixth Street.

IS PUS ABSORBED BY THE SYSTEM?

By FRANK S. LOW, M.D.,

PULASKI, N. Y.

This question has often been asked and perhaps never has been proven beyond a doubt. Clinically it is of great importance to the surgeon and should be more thoroughly studied, for if it is taken up by the absorbents and either converted into new tissue or eliminated through the various excretory organs, the necessity of using the knife or aspirator is largely reduced.

The literature of the subject is very meagre, and I have not been able to get much light on the subject through any authors which I have consulted, and the few remarks which I shall offer for consideration will be based mostly on my own somewhat limited experience.

Pus, as defined by Dunglison, is a secretion from inflamed textures, and especially from the areolar membrane. It is almost always of the same nature, whatever may be the part it proceeds from, and is of a yellowish-white color, opaque, inodorous, and of a creamy appearance, and

consists essentially of two distinct parts, pus corpuscles and a colorless aqueous fluid called liquor puris. How is this substance formed, and what seems to be the purpose of nature in forming it?

Let us take a few familiar examples to illustrate: A person receives an injury—say a severe blow in the leg. The parts become swollen and red from obstruction in the circulation as it existed previous to the injury, also by the instinctive desire of nature to carry more blood to the injured part for the purpose of repair. Thus we have a congested condition of the capillaries, which being unable to unload themselves through the natural channels, the more liquid part of the blood oozes out into the surrounding parts and with the white corpuscles of the blood forms pus. This process still going on from the same cause, there is obstruction in the circulation of the blood, with the heart's action still furnishing more material, the pus compresses the surrounding tissues and forms a cavity which we call an abscess, and when filled with nothing but pure pus is absolutely harmless as far as blood-poisoning is concerned, and is only painful by the pressure that it produces on the surrounding tissues. If by reason of its size and position it destroys any living tissue which mingles with the pus, decomposition of the whole mass takes place, and we have then the danger of pyæmia.

Let us study the natural course of this collection of pus. It seeks the easiest way to escape, and if near the surface will soon, by absorbing the tissues, reach the skin, which, being deprived of its blood supply, dies and forms a slough, through which the contents of the abscess is discharged. The inflammation around the abscess will now subside, as the pressure is taken off and normal circulation is restored. The walls of the abscess unite and the parts are restored to health. This is nature's surgery without any antiseptics. I can hardly conceive that every particle of pus is evacuated in this mannor, yet the wound heals kindly, and I believe that the remaining pus is absorbed either directly as such, or, having gone through some chemical change, is absorbed by the parts which lately secreted it, and that such absorption is safe, healthy, and natural.

Take another example: A person is burned over quite a large surface, sufficient to cause the true skin to die and slough off. Soon after the injury nature commences repair by casting off the dead tissues, and under it will soon be found the parts liberally bathed in pus. Has nature made a mistake and covered the wound with a poison? No! Under this covering of horrid pus, so much feared by modern pathologists, will be seen healthy granulations which when they have filled up, the lost tissue commences forming new skin. Of course we have no direct evidence that any of this pus on an open wound is absorbed, yet we do have abundant evidence that it is not only harmless but absolutely healthy and the normal first covering of all open wounds. And I see no good reason why at least some of its elements may not be absorbed and converted into new tissue or expelled through the many excretory organs without any injury to health. Again, I have often seen small fluctuating tumors which had all the appearance of containing pus disappear entirely without any apparent discharge or constitutional disturbance.

Among many cases which have led me to believe that pus pure and simple forming in or on healthy individuals can be taken up in some manner and utilized in the living organism are these:

I had a case of injury of knee-joint caused by a fall. The patient was a young man of good health and habits previous to the injury. The knee became enormously swollen, inflamed, and painful, and I determined to open it, although at that time—some thirty-five years ago—it was almost malpractice to open a serous sac, especially the knee-joint. I made a valvular incision with a common thumb-lancet and carefully evacuated about four ounces of thick pus. I used no pressure or syringe to wash or squeeze out the whole of the matter. I allowed the skin to cover the opening and dressed the leg on a double inclined splint and with evaporating lotions. The wound never discharged any more pus, the inflammation gradually subsided, and the man had a useful knee-joint. I have no doubt but some of the pus was absorbed.

I will give a brief statement of one more case that I think illustrates the fact that pus is sometimes absorbed. I was called some two years ago to see a boy about ten years of age, and of a good constitution. About two weeks before I was called he came home from school in a severe chill. His mother put him to bed and "gave him a sweat," thinking it was nothing but a bad cold, although the boy had a severe cough which was very constant and without any expectoration. The family (who were quite afraid of the doctor's bill) neglected calling a physician, and when I saw the boy he had a pulse of 130, respiration 45, and a temperature of 104° F., with one lung impervious to air, the intercostal spaces bulging, in fact all the usual symptoms of a large collection of fluid in the pleural cavity. This patient was aspirated and about four ounces of thick pus removed from the pleural cavity. The patient being very weak and showing signs of collapse, the aspirating needle was removed, although pus continued to flow, and it was expected that the operation would have to be repeated in the near future. But very much to our surprise the lung again inflated, the constitutional and local symptoms all gradually disappeared, and the boy to-day seems perfectly well, with an apparent thickening of the pleura and a slight friction sound. It does not seem probable that all the pus could have been removed, yet no blood-poisoning, and in fact no trace of the fluid, now remains. I think it must have been absorbed.

With an experience of over forty years I do not now remember a single case occurring in a healthy person where I could trace any blood-poisoning from the presence of pus alone. Only in the debilitated, broken-down constitutions, where the slightest cause would destroy vitality, have I seen any bad effects of pus, except the exhaustion which comes from the waste of tissue from the excessive secretion. Even in lumbar and psoas abscess, which generally terminates fatally, I have never seen a case of blood-poisoning. Therefore, from these and many other clinical facts, I have come to these conclusions: That pus is sometimes absorbed into the system; that if not absorbed it is not of itself a dangerous product, and only becomes so when mingled with dead and decaying tissue, or is so excessive as to exhaust the patient; that all pus-cavities occurring in healthy subjects which have been fairly well evacuated, sufficient to remove all pressure, and are so situated as to allow the walls of the abscess to be in apposition, will take on a healthy action and result in a perfect cure; and that the danger of blood-poisoning from the presence of pus has been greatly exaggerated by our modern pathologists.

A CASE OF MYXŒDEMA.

By MARIA M. VINTON, M.D.

NEW YORK.

A. I——, aged forty-five; married twenty-seven years, was first seen at the Dispensary of the Woman's Medical College of the New York Infirmary in May, 1890, and continued under observation for about one year. She has had eight children, one died in infancy, the other seven are living and healthy, and show no signs of myxœdema as far as can be ascertained. Two daughters who have been seen, are slim and active. The patient's mother was never stout. She died of "lung trouble." Her father is living and well. He is stout, but not myxœdematous. There are no cases of the disease in the family of either parent, or in the present generation.

The patient has always been very healthy, never con-

fined to the bed, except at the times of the birth of her children. Sixteen years ago, after child-birth, she grew very stout and heavy, and "lost all her strength." Her friends told her that she had dropsy, but her physician contradicted this statement, telling her that it was not healthy fat, but giving no name to the disease. This condition lasted for about two months. The stoutness gradually disappeared and her strength returned. Since that time the skin of her hands has been very dry. Whether this was a transient attack of myxœdema, it is impossible to say, but such cases have been reported. She remained well up to seven years ago, when the menopause occurred at thirty-eight years, without any marked disturbances. At this time she began to feel as if her body was too heavy for her legs to carry, and her movements became slow. At the same time she noticed a sensation of coldness about the back and hips. The symptoms increased very gradually up to four years ago, when her house and her husband's store were burned to the ground, the family escaping in their night-clothes and saving nothing. This shock and the consequent worry, with their subsequent removal to America, seemed to cause a more rapid increase in her symptoms. Four years ago, that is three years after the menopause, she began to have hemorrhages from the uterus. Since then she has had six or more. One occurred in May, 1891; not repeated for about four months, and they then recurred at intervals of about one month. She has had no hemorrhages from the nose or mouth or any other part of the body, and no purpura. She has occasional attacks of palpitation on exertion. Her bowels are very constipated, and she has had lately several attacks of crampy pain followed by diarrhœa and clay-colored stools, but no jaundice.

About two years ago her teeth loosened and fell out without pain, leaving the gums spongy. Her hair has also been falling out, particularly during the last two years.

Present Condition.—Her face is remarkably broad, especially over the cheek-bones; the nose broad, thick, and flattened. The eyelids are puffy, and, as she says, "her eyes have grown small," that is, less of the sclerotic is seen on account of the increase of tissue in the lids. The scalp is thinly covered with hair, so that she has to wear considerable false hair to conceal it. Her lips are thick and feel stiff to the patient, as do the eyelids. In talking she forms her words slowly, but thinks the difficulty is due to her loss of teeth. The tongue is large and flat, but she feels no difficulty in moving it, though she talks as if her mouth were full. The expression of the face is stupid and placid. The skin has a waxy, smooth look, in marked contrast to the bright, circumscribed flush over the cheek-bones. The neck is very large, especially about the ears, and she has a full double chin. The thyroid gland cannot be felt. The arms and legs are very large and the tissues elastic and firm to the touch, and there is no pitting on pressure. She says her feet and hands are not increased in size, and that she wears no larger size of gloves or shoes than formerly. Three years ago she thinks her legs were much larger than they are now.

The bust is very full. The heart-sounds are feeble and the heart cannot be mapped out, nor the apex-beat felt, on account of the masses of thickened tissues in the mammary glands and walls of the chest. The lung-sounds are normal. The abdomen is large and pendulous. She is obliged to wear an abdominal belt, and says that in walking "her stomach seems to pull her forward." The abdominal walls are very thick and can be gathered up in masses between the hands. The liver is of normal size. The small and large intestines are tympanitic, and somewhat tender on deep pressure, following a late attack of pain and diarrhœa.

The temperature is 97.8° F.; pulse, 82; urine, specific gravity, 1.017, contains no albumin or casts. Her speech is very deliberate, as well as her mental action. She answers questions intelligently after a little thought, and gives dates correctly. She says her memory is poor, and she cannot carry on her household affairs on that account. She cannot make change well in buying at the stores, and never goes out alone. She does not read much, but does her family mending. She is very nervous and emotional, crying at nearly every visit to the clinic. She moves very slowly and with evident difficulty. She complains greatly of a sensation of coldness and dull pain in the lumbar region. This alternates with burning over the base of the spine and right arm, but the cold predominates. She has no anæsthesia, no other paræsthesiæ, and no special sense troubles. Her hands are very cold and purplish in winter, particularly the nails, which are well formed. The skin is dry, but not scaly.

This case presents all the typical symptoms of this rare and interesting disease. The appearance is very characteristic, and would attract the notice of even a casual observer.

Up to 1888, when Drs. Hun and Prudden published a very interesting series of papers giving an account of four cases, with two autopsies, there has been reported one hundred and fifty cases of myxœdema. Since then a considerable number of additional cases have been reported. Unfortunately there are few autopsies, but the results of such examinations as have been made go to show that the increase in tissue is not due to mucous tissue, and that the name myxœdema is a misnomer. The thyroid seems to be uniformly absent or atrophied, showing an increase in the connective tissue, and atrophy of the gland structure proper.

COMPLETE LACERATION OF THE PERINEUM WITHOUT RISE OF TEMPERATURE—UNION BY FIRST INTENTION, AND RAPID RECOVERY.

By L. W. ARNOLD, M.D.,

FLORENCE, ALA.

In the MEDICAL RECORD of September 12 and December 19, 1891, I notice articles of Drs. Boxhall and C. S. Scofield, in regard to rupture of the perineum without rise of temperature. I beg leave to report a similar case in support of said articles. On December 14th I was called to the country with Dr. Brunlett, my colleague, to deliver one Mrs. P——, a primipara, thirty-eight years of age. The physician in attendance reported forty-eight hours of labor pain, followed by forty-eight hours of uterine inertia. On examination we found a very contracted pelvis and rigid perineum. Contents of uterus in a semi-decomposed state, judging from the offensive odor that penetrated the atmosphere of the lying-in room. We at once decided to deliver with forceps, well knowing that we would have a lacerated perineum to contend with. The head of the child was unusually large. After the child was delivered I found complete laceration of both walls—intestinal as well as vaginal. The rupture was at least three inches long, presenting a rather ragged, ugly looking wound. We thereupon concluded to irrigate the uterus and vagina with one to two thousand solution of bichloride, which we did, having the solution almost scalding hot. After thoroughly emptying the uterus and vagina of all débris, I took seven stitches, three in the intestinal and four in the vaginal walls, looking well to thorough approximation of the lacerated surfaces; applied an abdominal compress, and then a napkin was pinned, holding firmly to the perineum a pad consisting of a thick roll of absorbent cotton, wrung out of a strong bichloride solution. On returning the following day, I found the temperature 99° F., pulse 110. Removed bandages, and irrigated the vagina with four gallons of a hot solution of bichloride. I ordered vagina to be irrigated morning, noon, and night with a bichloride solution as hot as could be borne. The patient at this date, December 28th, is doing well. I have but recently dismissed a somewhat similar case, but in that instance

used Labarraque's solution of chlorinated soda, the last filling the requirements equally as well as the bichloride. Good drainage and thorough irrigation mean cleaning of the parts, and if kept clean, the patients will all recover. Ninety-nine out of one hundred cases of septic infection are due to the neglect of the attending physician or nurse. I always, in every instance, order pads to be applied to the vulva. This insures perfect cleanliness, gives good support to the perineum, prevents fetor, and prevents the secretions from saturating bed-clothes.

TUMOR OF VOCAL CORD—REMOVAL.

By EDWIN CARSON, M.D.,

SAN DIEGO, CAL.

Mr. G. L. H——, aged about sixty-three. Previous history good, with the exception of an attack of influenza two years ago. I saw the patient for the first time about the middle of last September, when he presented himself for the relief of some throat trouble involving the loss of his voice.

Present condition, fairly developed and nourished; general health, good; voice consists of a hoarse, stridulous, half whispering sound. The patient states that he was treated in Washington one year ago, but the endo-laryngeal growth was not discovered at that time. He had been in the habit of using his voice a good deal in public speaking during the past ten years, up to a year ago, when he had to give it up on account of aphonia. He dates the present trouble from an attack of the grip, which he experienced two years ago. On examination with the laryngoscope, a small, smooth, rounded, reddish growth, oval in shape, and sessile, about half the size of a white navy bean, was seen to spring from the edge of the anterior half of the left vocal cord. During an attempt at phonation, the neoplasm was brought into contact with the edge of the right cord, which curved around it, leaving a short buttonhole opening in front and a longer one behind, thus preventing the closure of the glottis. The other portions of the larynx were normal except the mucous lining, which showed slight catarrhal congestion. The throat not being particularly sensitive, it yielded to the education imparted to it by the frequent introduction of an instrument, so that in ten days a tolerance of some manipulation had been attained. The throat discipline was conducted under the influence and aid of a four per cent. solution of cocaine spray, but on account of a high-arched tongue, and a low-vaulted palate, the larynx was not easy of access. I first used a forceps of 3½ inches length of downward curve, but found it would not reach the cords. I then sent a special order to a New York maker for a pair of 3⅞-inches down curve, lateral opening, and serrated edge jaws. With this I succeeded in removing a small part of the growth, with immediate improvement of the voice. But desiring the down curve made even a little longer, I took the instrument to a local "tinker," and he managed to break one of the blades, which was badly mended, and I found he had given me a down curve of 4½ inches. I introduced it, however, with difficulty, but it was so out of shape as to be useless, and I abandoned it and ordered another, this time with cutting edges. With this I cut away the growth, little at a time, at the last sitting, except a small portion on the anterior extremity of the cord, almost at its attachment to the thyroid cartilage, which was very difficult to reach on account of being so far forward. The operation was followed by great improvement in the voice, but as the gentleman had to go East the next day, any further efforts had to be deferred until his return.

For about a century and a half intra-laryngeal growths have been diagnosed, but prior to 1859, when Czermak introduced the laryngoscope, it was done by the physical signs, and probing with the finger. By the use of the mirrors and reflected light, the laryngeal cavity admits of complete and ready inspection. Without submitting any of the pieces of the removed growth to microscopical tests, I made a diagnosis of fibroma, first, because of its slow growth, about two years, and on account of its smooth, rounded appearance, having nothing of the excrescence that characterizes the papilloma.

Endo laryngeal neoplasms are not frequently met with, but when they do occur, the authorities agree that the vocal cords are their most favored sites; and of all the growths that invade the larynx, the papillomata are the most frequent, constituting about three-fourths of all such cases. According to Mackenzie, about ten per cent. of all are fibromata. While writing the last of these notes, the patient's wife came in and reported that her husband's voice had improved and grown much stronger since his departure for the East. I have lately had a letter from the patient in which he says, "My voice is entirely restored."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 20, 1892.

	Cases.	Deaths.
Typhus fever	25	2
Typhoid fever	14	2
Scarlet fever	223	39
Cerebro-spinal meningitis	0	0
Measles	209	13
Diphtheria	141	26
Small-pox	10	2
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

The Diagnosis of Gastric Ulcer.—In the course of a recent discussion on ulcer of the stomach in one of the London medical societies, Dr. Routh said that electricity assisted in the diagnosis of gastric ulcers; if there were really an ulcer the pain would be intensified on passing the constant current through the painful spot, whereas if no ulcer existed the current would afford relief.

The Universities of the World.—There are 147 universities in the world, of which the largest is in Paris, with 9,215 students; the next in Vienna, with 6,220; the third in Berlin, with 5,527. The smallest is a branch of Durham University, Fourah Bay College, in Sierra Leone, with twelve students and five professors.

Human Mortality.—The annual mortality of the entire human race amounts, roughly speaking, according to a French medical journal, to 33,000,000 of persons. This makes the average deaths per day over 91,000, being at the rate of 3,730 an hour, or 62 people every minute of the day and night the year round. A fourth of the race die before completing their eighth year, and one-half before the end of the seventeenth year; but the average duration of life is about thirty-eight years. Not more than one person in a hundred thousand lives to be a hundred.—*New York Sun.*

The Health of the Small Boy again Threatened.—An industry of great promise in Japan, for purposes of export, is the manufacture of cigarettes. Japanese tobacco, though not suitable for pipes or cigars, makes excellent cigarettes, pronounced by the majority of smokers to be only a little inferior to cigarettes made with Turkish tobacco, and the advantage is very distinctly on the side of the Japanese article in respect of cheapness, its ratio of price to that of the Turkish being as three to five, approximately.—*Japanese Mail.*

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Original Lectures.

PRESENT PROBLEMS IN EVOLUTION AND HEREDITY.

THE CARTWRIGHT LECTURES FOR 1892.

(Continued from p. 204.)

LECTURE II.

THE DIFFICULTIES IN THE HEREDITY THEORY.

"Nur muss ich nochmals betonen, dass nach meiner Auffassung der Anfang einer neuen Reihe erblicher Abweichungen, also auch der Eintritt einer neuen Art ohne eine vorausgegangene erworbene Abweichung undenkbar ist."—VIRCHOW.

State of Opinion.—The above quotation from one of the most eminent authorities of our times represents the unshaken conviction of a very large class upon one side of the question of transmission of acquired characters, which is met by equally firm conviction upon the other side.

Herbert Spencer, whose entire system of biology, psychology, and ethics is based upon such transmission says: "I will only add that, considering the width and depth of the effects which acceptance of one or other of these hypotheses must have on our views of Life, Mind, Morals, and Politics, the question Which of them is true? demands, beyond all other questions whatever, the attention of scientific men."[1] This shows that Spencer considers the matter still *sub judice*, and lest you may think I am bringing before you an issue in which learning and experience are ranged against ignorance and prejudice, I have taken some pains, by correspondence with a number of friends abroad, to learn the present state of opinion. The two leading English and French authorities upon this subject express themselves doubtfully.

Galton's mind is still wavering, as in his work of 1889:[2] "I am unprepared to say more than a few words on the obscure, unsettled, and much discussed subject of the possibility of transmitting acquired faculties. . . . There is very little direct evidence of its influence in the course of a single generation, if the phrase of Acquired Faculties is used in perfect strictness and all inheritance is excluded that could be referred to some form of Natural Selection, or of Infection before birth, or of peculiarities of Nurture and Rearing."

Ribot, although in the centre of the French Lamarckians, says: "Notwithstanding these facts the transmission of acquired modifications appears to be very limited, even when occurring in both of the parents."

Excepting from Kölliker; His, the Leipsic anatomist; Pflüger, the physiologist; Ziegler, in pathology; and De Vries, in botany, Weismann has not found much sympathy from his own countrymen in his opinion "that acquired characters cannot be transmitted; . . . that there are no proofs of such transmission, that its occurrence is theoretically improbable, and that we must attempt to explain the transformation of species without its aid."[3] Besides Virchow[4] and Eimer,[5] Haeckel has expressed himself strongly against Weismann. My colleague, Professor Wilson, writes me (Munich, December 31, 1891) that, while Weismann's modified theories as to the phenomena in the reproductive cells are pretty generally accepted, Hertwig, Hofer, Paully, Boveri, and others are pronounced advocates of the acquired-character-transmission theory.

In Paris, Brown-Séquard, who was among the first to test this problem experimentally by observing the inheritance of the effects of nerve-lesions; his assistant, Dupuy, Giard, Duval, Blanchard, and others are on the affirmative, or Lamarckian side.

Physiologists generally have fought shy of the question, although I think in the end they will be forced to take it up with the morphologists, and give us the physio-morphological theory of heredity of the future. Professor Michael Foster, of Cambridge, and Professor Burdon-Sanderson, of Oxford, both write me that the question has hardly come into the physiological stage of inquiry at all. Yet in England Weismann has found his strongest supporters among some of the naturalists: Wallace, Lankester, Thiselton Dyer, Meldola, Poulton, Howes, and others; while, excepting Windle, the anatomists, including Mivart and Lawson Tait, with Sir William Turner as the most prominent, are all Lamarckians. Huxley, Romanes, and Flower are said to be doubtful. In this country the opinion of naturalists is directly the outgrowth of the class of studies in which each happens to be engaged. So far as I know every vertebrate and invertebrate palæontologist is a Lamarckian,[1] for in this field all evolution seems to follow the lines of inherited use and disuse; most of those engaged upon invertebrate zoölogy incline to follow Weismann. I have conversed upon this subject with many physicians, and find that without exception the transmission of acquired characters is an accepted fact among the profession.

Exact Statement of the Problem.—It is important at the outset to state most clearly what is and what is not involved in this discussion. Weismann[2] does not claim that the reproductive or germ-cells are uninfluenced by habit; on the other hand, he admits that most important modifications in these cells may and do result from changes of food, climate, from healthy or unhealthy conditions of the body; also from infectious disease, where it is quite as possible that the microbes may enter the reproductive cells as any other cells of the body; from alcoholism, where the normal molecular action of the protoplasm of the germ-cells may be disturbed, resulting in abnormal development, and there are some very interesting experiments which I shall cite on this point; from some nervous disorders which profoundly modify cell-function in all the tissues; in other words, *ovum sanum in corpore sano*. But to accept all this, and even to include all our rapidly increasing knowledge of the direct relation between such phenomena as production of deformities and determination of sex, and the influences of environment upon the ovum; or the influences of the mother upon the fœtus—this is all aside from the real question at issue.

It may be stated thus: Given *G*, the ova and spermatozoa, the germ-cells or material vehicles of hereditary characters; *S*, the body or somatic cells of all the other tissues conveying the hereditary characters of nerve, muscle, and bone; *V*, the variations in these body-cells "acquired" during lifetime; given these factors, the real question is: Do influences at work producing variations in certain body-cells of the parent so affect the germ-

[1] Nineteenth Century, 1889. [2] Natural Inheritance, 1889, p. 14.
[3] Biologisches Centralblatt, 1888, pp. 65 and 97.
[4] Ueber den Transformismus, Archiv f. Anthropologie, 1889, p. 1.
[5] Organic Evolution, upon the Law of Inheritance of Acquired Characters. Tübingen, 1888. Trans.

[1] See the writings of Hyatt, Cope, Ryder, Dall, Scott, and others.
[2] See Essays upon Heredity and Kindred Biological Problems, 1889. Trans.

cells of the parent that they reappear in corresponding body-cells of the offspring? To take a concrete case, will the increased use of the cells of the extensor indicis muscle in the parent so stimulate that portion of the germ-cells which represents this muscle that the increment of growth will in any degree reappear in the offspring?

This is what is required of heredity upon the Lamarckian hypothesis, and I think you will see at once that while this hypothesis simplifies the problem of evolution it in a corresponding degree renders more difficult the problem of heredity—for we have not the first ray of knowledge of what such a process involves. There is no quality more essential to scientific progress than common honesty; if we take a position let us face all its consequences; the more we reflect upon it, the more serious the Lamarckian position becomes.

In the present lecture let us first briefly review the progress of the science of heredity which has led up to the present discussion. Second, Let us examine the evidence for and against the Lamarckian theory, and inquire how far natural selection can explain all the facts of evolution. Third, Let us examine the evidence for such a continuous relation between the body-cells and germ-cells, as must exist if the Lamarckian theory is the true one.

History of the Heredity Theory.—In a valuable summary of the past theories of heredity[1] J. A. Thomson distinguishes three general problems, which are often confused. 1st. What characters distinguish the germ-cells from other cells of the body? 2d. How do the germ-cells derive these distinguishing characters? 3d. How shall we interpret "particulate" inheritance, or the reappearance of single peculiarities in the offspring?

The various theories may be grouped under two heads, "Pangenesis of Germ-cells" and "Continuity of Germ-cells," according to the dominating idea in each.

1. *Pangenesis.*—The idea pervading pangenesis was first expressed by Democritus that the "seed" of animals was derived by contributions of material particles from all parts of the bodies of both sexes, and that like parts produced like. Two thousand years later, Buffon revived this conception of heredity in his "molecules organiques." In 1864 Herbert Spencer suggested the existence of "physiological units," derived from the body-cells of the parent, forming the germ-cells and then developing into the body cells of the offspring.

It is interesting to note the course of Darwin's thought upon this matter in his published works and in his "Life and Letters." He was at first strongly opposed to the views upon evolution advanced by Buffon, by Erasmus Darwin, his grandfather, expanded by Lamarck, and now known as Lamarckian. But gradually becoming convinced that his own theory of natural selection could not account for all the facts of evolution, he unconsciously became a strong advocate of Lamarck's theory, and contributed to it a feature which Lamarck had entirely omitted, namely, a theory of heredity expressly designed to explain the transmission of acquired characters. Darwin's[2] "provisional hypothesis of pangenesis" postulated a material connection between the body-cells and germ-cells by the circulation of minute buds from each cell; each body-cell throws off a "gemmule" containing its characteristics; these gemmules multiply and become especially concentrated in the germ-cells; in the latter they unite with others like themselves; in course of development they grow into cells like those from which they were originally given off. (See Diagram II.)

Galton,[3] who has always been doubtful in regard to use-inheritance, while advancing a theory of "continuity," partly approved Darwin's pangenesis idea in the cautious statement: "Each cell may throw off a few germs that find their way into the circulation and thereby have a chance of entering the germ-cells." At the same time Galton contributed very important experimental disproof of the existence of "gemmules," and, in fact, of the popular idea of the circulation of hereditary characters in the blood, by a series of careful experiments upon the transfusion of blood in rabbits; he found that the blood did not convey with it even the slightest tendency to transfer normal characteristics from one variety to another.

Professor Brooks,[1] of the Johns Hopkins University, then contributed an original modification of pangenesis in which the functions of the ova and spermatozoa were sharply differentiated. (1) He regarded the ovum as a cell especially designed as a storehouse of hereditary characteristics, each characteristic being represented by material particles of some kind; thus hereditary characters were handed down by simple cell division, each fertilized ovum giving rise to the body-cells in which its hereditary characters were manifested and to new ova in which these characters were conserved for the next generation (this portion of Brooks's theory is very similar to Galton's and Weismann's). (2) The body-cells have the power of throwing off "gemmules," but this is exercised mainly or exclusively when its normal functions are disturbed, as in metatrophic exercise or under change of environment. (3) These gemmules may enter the ovum, but the spermatozoan is their main centre. According to this view the female cell is rather conservative and the male cell progressive; the union of these cells produces variability in the offspring, exhibited especially in the regions of the offspring corresponding to the regions of functional disturbance in the parent. This hypothesis was well considered, and while that feature of it which distinguishes the male and female germ-cells as different in kind has been disproved, and the whole conception of gemmules is now abandoned, the fact still remains that we shall nevertheless be obliged to offer some hypothesis to explain the facts disregarded by Weismann for which Brooks provides in his theory of the causes of variation.

2. *Continuity of Germ-cells.*—The central idea here is an outgrowth of our more modern knowledge of embryogenesis and histogenesis, and is, therefore, comparatively recent; it is that of a fundamental distinction between the "germ-cells," as continuous and belonging to the race, and the "body-cells," as belonging to the individual. Weismann has refined and elaborated this idea, but it was not original with him.

Richard Owen,[2] in 1849, Haeckel,[3] in 1866, Rauber,[4] in 1879, in turn dwelt upon the distinction which Dr. Jaeger, now of manufacturing fame, first clearly stated:

"Through a great series of generations the germinal protoplasm retains its specific properties, dividing in every reproduction into an ontogenetic portion, out of which the individual is built up, and a phylogenetic portion, which is reserved to form the reproductive material of the mature offspring. This reservation of the phylogenetic material I described as the continuity of the germ protoplasm. . . . Encapsuled in the ontogenetic material the phylogenetic protoplasm is sheltered from external influences, and retains its specific and embryonic characters." The latter idea has, under Weismann, been expanded into the theory of isolation of the germ-cells.

Galton introduced the term "stirp" to express the sum total of hereditary organic units contained in the fertilized ovum. His conception of heredity was derived from the study of man, and he supported the idea of continuity in the germ-cells in order to account for the law of transmission of "latent" characters; it is evident from this law that only a part of the organic units of the "stirp" become "patent" in the individual body; some are retained latent in the germ-cells, and become patent only in the next or some succeeding generation. For example, the genius for natural science was "patent"

[1] See Proc. Roy. Soc. Edin., 1888, p 93.
[2] See Animals and Plants under Domestication, 1875, vol. ii., p. 349.
[3] Contemporary Review, vol. xxvii., p 80–95.

[1] The Law of Heredity, 1883.
[2] See Parthenogenesis, in his Anatomy of Vertebrates.
[3] Generelle Morphologie, vol. ii., p. 170.
[4] Zool. Anz., vol. ix., p. 166.

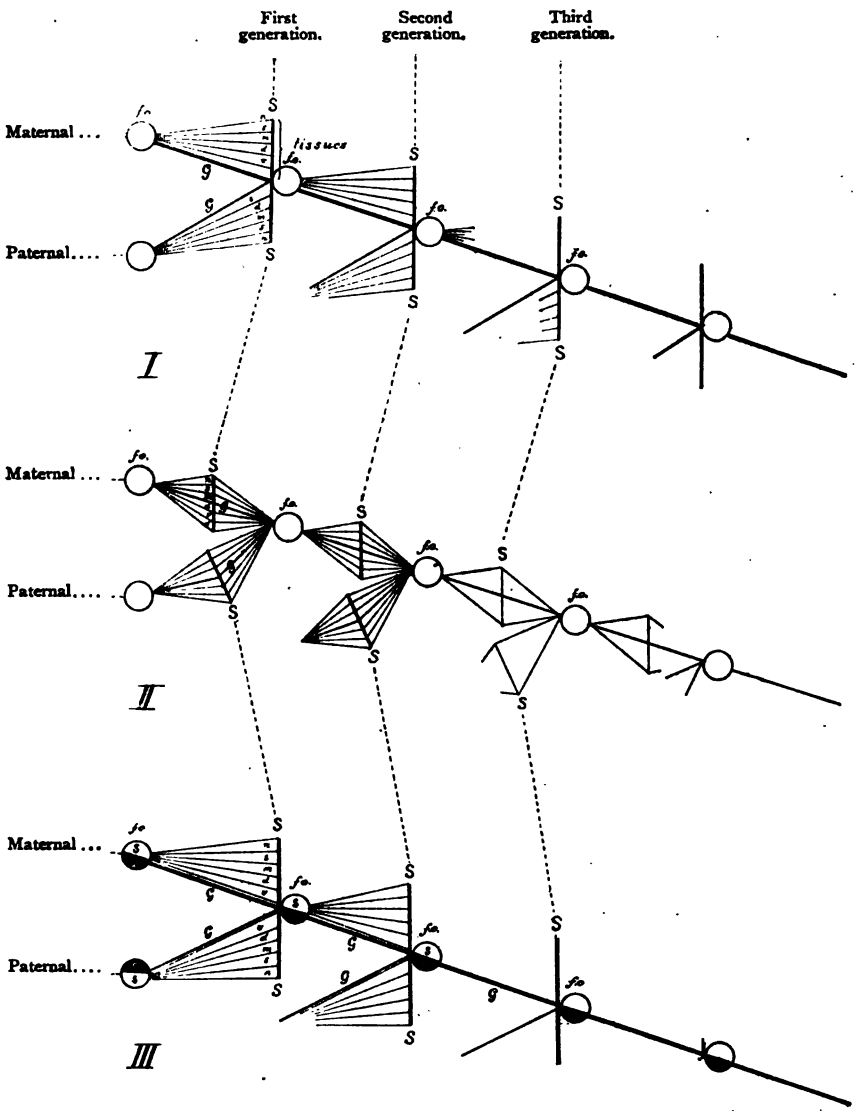
in Erasmus Darwin, grandfather of the great naturalist, it was "latent" in his son, and reappeared intensified in his grandson, Charles Darwin. I have elsewhere[1] summed up as follows Galton's general results, which so remarkably strengthen the "continuity" idea: We are made up, bit by bit, of inherited structures, like a new building, composed of fragments of an old one, one element from this progenitor, another from that, although such elements are usually transmitted in groups. The hereditary congenital constitution thus made up is far stronger than the influences of environment and habit upon it. A large portion of our heritage is unused, for we transmit peculiarities we ourselves do not exhibit. The contributions from each ancestor can be estimated in numerical proportions, which have been exactly determined from statistics of stature in the English race; thus the contributions from the "patent" stature of the two parents together constitute one-half; while the contributions by "latent" heritage from the grandparents constitute one-sixteenth, etc. One of the most important demonstrations by Galton, is the *law of regression;* this is the factor of stability in race type which acts as gravitation does upon the pendulum; if an individual or a family swing far from the average characteristics of their race, and display exceptional physical or mental qualities, the principle of regression in heredity tends to draw their offspring back to the average.

Now how shall we distinguish regression from reversion? Very clearly, I think; *regression* is the short pull which tends to draw every variation and the individual as a whole back to the contemporary typical form, while *reversion* is the long pull which draws the typical form of one generation back to the typical form of a very much earlier generation. These forces are evidently akin, and in the shades of transition from one type to another we would undoubtedly find a constant diminution numerically in the recurrence of characters of the older type, and thus "regression" would pass insensibly into "reversion."

Weismann has carried the idea of continuity to its extreme in his simple and beautiful theory of heredity, which is founded upon the postulate that there is a distinct form of protoplasm, with definite chemical and molecular properties, set apart as the vehicle of inheritance; this is the *germ-plasm*, *G*, quite separate from the protoplasm of the body cells or *somatoplasm*, *S*. Congenital characters arising in the germ-cells are called *blastogenetic*, while acquired characters arising in the body-cells are *somatogenetic*.

To clearly understand this view, let us follow the history of the fertilized ovum in the formation of the embryo. It first divides into somatoplasm and germ-plasm (see Diagram III.), the former supplies all the tissues of the body—*n*, *s*, *m*, *d*, *v*, nervous, muscular, vascular, digestive, etc.—with their quota of hereditary structure; the residual germ-plasm is kept distinct throughout the early process of embryonic cell division until it enters into the formation of the nuclei of the reproductive cells, the ova or spermatozoa. Here it is isolated from changes of function in the somatoplasm, and in common with all other protoplasm is capable of unlimited growth by cell division without loss or deterioration of its past store of hereditary properties; these properties are lodged in the nucleus of each ovum and spermatozoan, and these two cells, although widely different in external accessory structure (because they have to play an active and passive part in the act of conjugation), are exactly the same in their essential molecular structure, and the ancestral characters they convey differ only because they come along two different lines of descent. When these cells unite they carry the germ-plasm into the body of another individual. Thus the somatoplasm of each individual dies, while the germ-plasm is immortal; it simply shifts its abode from one generation to another; it constitutes the chain from which the individuals are mere offshoots. Thus the germ-plasm of man is continuous with that of all ancestors in his line of descent, and we have an explanation of the early stages observed in development in which the human embryo passes through a succession of metamorphoses resembling the adult forms of lower types.

In order to emphasize, as it were, the passage of the germ-plasm from one generation to another without de-



f.o., fertilized ovum or *embryo*, containing maternal and paternal characteristics; *S*, soma, or adult body, containing *n*, *s*, *m*, *d*, *v*, *somatic cells* of the various tissues: and *G*, *germ-cells* of the reproductive glands.

I. Histogenesis.—Showing the successive rise *G*, and union *f.o.* of the maternal and paternal germ-cells by direct histogenesis.

II. Pangenesis.—Showing the tissues of the body *S*, contributing to the germ-cells *G*, so that each *f.o.* is composed of elements from both the somatic and germ-cells.

III. Continuity.—Showing the division of the embryo, *f.o.*, into somatoplasm, *s* (from which arise the body-cells), and germ-plasm, *G* (which passes direct to the germ-cells), establishing a direct continuity.

[1] Atlantic Monthly, March, 1891, p. 359.

terioration in its marvellous hereditary powers, Weismann added the idea of its *isolation*. Not only does he repudiate the pangenesis notion of increment of germ-plasm by addition of gemmules, but he believes that it is unaffected by any of the normal changes in the somatic or body-cells. As this continuity and isolation would render impossible the transmission of characters acquired by the somatoplasm, Weismann began to examine the evidence for such transmission, and coming to the conclusion that it was insufficient, in his notable essay on "Heredity," in 1883, he boldly attacked the whole Lamarckian theory and has continued to do so in all his subsequent essays.

Being forced to explain evolution without this factor, he claimed that variation in the germ-plasm was constantly arising by the union of plasmata from different lines of descent in fertilization, and that these variations are constantly being acted upon by Natural Selection to produce new types. He thus revived Darwin's earlier views of evolution, and this in part explains his strong support by English naturalists.

It will be seen at once that there are a number of distinct questions involved.

The matter of first importance in life is *the repetition and preservation of type*, the principle which insures the unerring accuracy and precision with which complex organs are built up from the germ-cells; the force of regression and the more remote forces of reversion all work in this conservative direction; the theory of the preservation of these forces in a specific and continuous form of protoplasm is by far the most plausible we can offer at present.

The matter of second importance, but equally vital to the preservation of races, in the long run, is *the formation of new types* adapted to new circumstances of life. I shall now attempt to show that the facts of evolution, while not inconsistent with the idea of continuity of the germ-plasm, are wholly at variance with the idea of its independence, separation, or isolation from the functions of the body. This can be done by proving, first, that the theory of evolution solely by natural selection of chance favorable variations in the germ-plasm is inadequate; second, that the inheritance of definite changes in the somatic cells is also necessary to explain evolution, and therefore there must exist some form of force or matter which connects the activities of the somatoplasm with those of the germ-plasm.

In the following table are placed some of the facts of human evolution which we have observed in the first lecture, and as they are part of inheritance, they also constitute the main external phenomena of heredity:

Phenomena of Heredity.

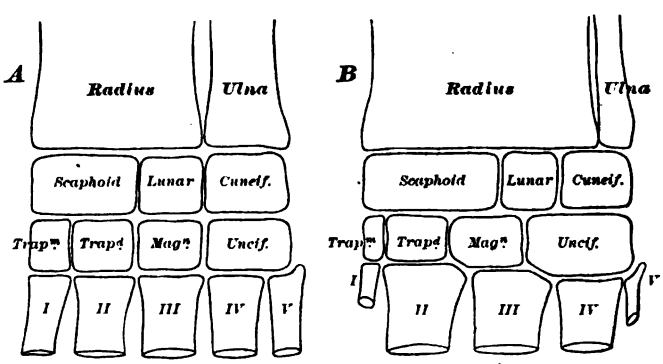
Conservative (toward past type).	*Neutral.*	*Progressive* (toward future type).
a. Repetition of parental type.	Fortuitous and Indefinite Variability.	*a.* Definite Variation in single characters, by accumulation =.
b. Regression (in many characters) to contemporary race type.		*b.* Definite Variation in many characters (from contemporary race type).
c. Reversion (mainly in single characters) to past race type.		

What are the causes of these various phenomena?

Factors of Evolution.—The term "kinetogenesis" has been applied to the modern form of the Lamarckian theory, for it is an application of kinetic or mechanical principles to the origin of all structures such as teeth, bone, and muscle. It would be fatal to this theory if it could be shown that the changes taking place in course of a normal individual life, under the laws of use and disuse, are inadaptive, or do not correspond to those observed in the evolution of the race.

The Relative Growth of Organs.—Ball,[1] in his long argument against Lamarckianism, claims that such is the case, and that use-inheritance would be an actual evil: "Bones would often be modified disastrously. Thus the condyle of the human jaw would become larger than the body of the jaw, because as the fulcrum of the lever it receives more pressure. Some organs (like the heart, which is always at work) would become inconveniently or unnecessarily large. Other absolutely indispensable organs which are comparatively passive or are very seldom used would dwindle until their weakness caused the ruin of the individual or the extinction of the species." He later cites from Darwin[2] the "Report of the United States Commission upon the Soldiers and Sailors of the Late War," that the longer legs and shorter arms of the sailors are the reverse of what should result from the decreased use of the legs in walking and increased use of the arms in pulling. A little reflection on Mr. Ball's part would have spared us this crude objection, for whatever difficulties may arise from theoretical speculation as to the laws of growth, or from statistics, the fact remains that activity must increase adaptation in every part of the organism; otherwise the runner and the trotting-horse should be kept off the track to increase their speed, the pianist should employ as little finger-exercise as possible. If the growth tendencies in single organs are transmitted, it is evident that the adaptive adjustments between these tendencies will also be transmitted.

The Feet.—In point of mechanical adaptation, man, with the single exception of his thumb and forearm, has not progressed beyond the most primitive eocene quadruped. The laws of evolution of the foot in the ungulate or hoofed animals, which have been especially studied by Kowalevsky, Ryder, Cope, and myself, affords a conclusive demonstration that the skeletal changes in the individual coincide with those which will mark the evolution of the race. In the earliest ungulates the carpals and tarsals are disposed, as in man, directly above each other, with serial joints, as in *A*; in the course of evolution all these joints became interlocking, as in *B*, thus



PRIMITIVE UNGULATE FOOT.—Lines of vertical cleavage on either side of the middle toe, III. Spreading of toes would cause separation of the carpals.

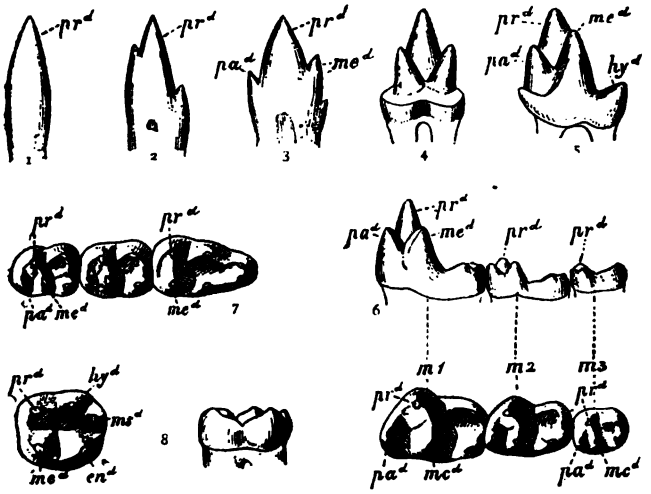
RECENT UNGULATE FOOT.—No lines of vertical cleavage. All joints broken by enlargement of scaphoid, unciform, and radius, the bones receiving greatest impact in walking. Lateral toes, I., V., degenerate.

producing an alternation of joints and surfaces similar to those which give strength to masonry. In studying these facts Cope[3] reached a certain theory as to the motion of the foot and leg in locomotion. In trying to apply this, I found it could not be harmonized with all the facts, and I worked out an entirely different theory.[4] This I found subsequently coincided exactly with the results previously obtained by Muybridge, by the aid of instantaneous photographs, and summarized by Professor Harrison Allen, of the University of Pennsylvania.[5]

The monodactylism of the horse was attained by the

[1] Op. cit., p. 129. [2] Descent of Man, p. 32.
[3] American Naturalist, 1887, p. 986.
[4] See Trans. of American Philosophical Society, p. 561. Philadelphia, 1889.
[5] The Muybridge Work at the University of Pennsylvania. Philadelphia, 1888.

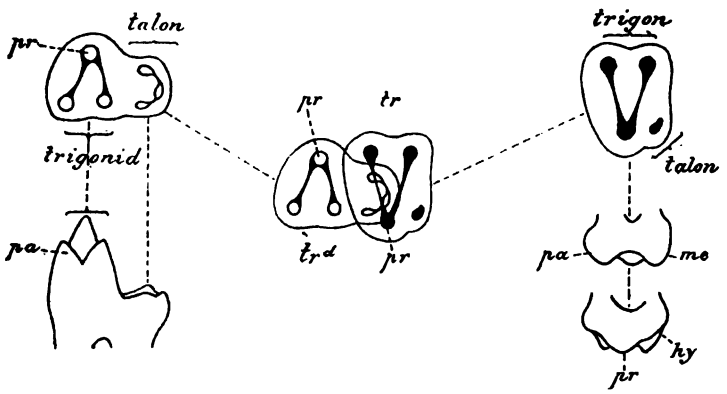
atrophy of the lateral toes, and concentration of the major axis of body-weight and strain upon the middle finger and toe. Man is also tending toward monodactylism in the foot by the establishment of the major axis through the large toe and atrophy of the outer toes. The present atrophy of our small toe is as good a parallel as we can find of the changes which were occurring in the eocene period among the ancestors of the horse.



EVOLUTION OF THE CUSPS OF THE HUMAN LOWER MOLAR.—*prd*, protoconid (anterior buccal cusp); *pad*, paraconid; *med*, metaconid (anterior lingual cusp); *hyd*, hypoconid (posterior buccal); *end*, entoconid (posterior lingual cusp); *msd*, mesoconulid (intermediate cusp). Fig. 1.—Reptilian stage. Figs. 2–5.—Mesozoic mammals, first lower molars showing rise of ancestral cusps. Fig. 6.—Eocene carnivore (*Miacis*), showing how the low tubercular crown *m3* is derived from the high crown *m1*. Fig. 7.—Eocene monkey (*Anaptomorphus*), showing how the primitive anterior lingual cusp, *pad*, disappears. Fig. 8.—Human first molar with its ancestral cusps.

The Teeth.—But how about the teeth, in which there is an absolute loss of tissue in consequence of use? This is another objection raised by Ball, Poulton, and others which disappears upon examination.

The dental tissues, while the hardest in the body, and, unlike bone, incapable of self-repair, are not only both living and sensitive, but, to a very limited degree, plastic and capable of change of form. *Ex hypothesi*, it is not the growth, but the reaction tendency which produces the growth, which is transmitted. The evolution of the teeth, therefore, falls into the same category as bone.[1] In the accompanying figures I have epitomized the slow transformation of the single-fanged conical reptilian tooth, such as we see in the serpents, into the low-crowned human grinder. We now know all the transition forms, so that we can homologize each of the cusps



Lower molar. Upper and lower molars opposed. Upper molar.

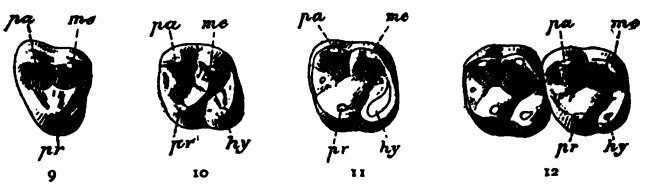
KEY TO PLAN OF UPPER AND LOWER MOLARS IN ALL MAMMALS.—Each tooth consists of a triangle, *trigon*, with the protocone, *pr*, at the apex. The apex is on the inner side of the upper molars and on the outer side of the lower molars.

of the human molar with its varied ancestral forms in the line of descent. For example, the anterior lingual or inner cusp of the upper true molars traces its pedigree back to the reptilian cone. The anterior triangle of cusps, or trigon, seen in the mesozoic mammalia, and persisting in the first inferior true molar of the modern dog, is still seen as the main portion of the crown of the human upper molars (*pr*, *pa*, *me*). To this was added, ages ago, the posterior lingual cusp, or hypocone, which, as Cope has shown, is exhibited in various degrees of development in different races and is an important race index.[1] A glance through the diagrams shows that the development of the crown has been by the successive addition of new cusps. Without entering upon the details of evidence, which would be out of place here, I may say briefly that the new main cusps have developed at the points of maximum wear (*i.e.*, use), and conversely in the degeneration of the crown, disuse foreshadows atrophy and disappearance.

Upon the whole, with some exceptions which we do not at present understand, the course of evolution of the teeth supports the evidence derived from the skeleton, that, whether any true causal relation has existed or not, the lines of individual transformation in the whole fossil series preceded those of race transformation.

The Rise of New Organs.—We owe to Dr. Arbuthnot Lane a most interesting series of studies upon the influences of various occupations upon the human body. He proves conclusively that individual adaptation not only produces profound modifications in the proportions of the various parts, but gives rise to entirely new structures.

His anatomy and physiology of a shoemaker[2] shows that the lifelong habits of this laborious trade produce a distinct type, which if examined by any zoölogical standard would be unhesitatingly pronounced a new species —*homo sartorius*. The psychological analysis which a Dickens or Balzac would draw, showing the influences of the struggle for existence upon the spirit of this little tailor could not be more pathetic than Dr. Lane's analysis of his body. The bent form, crossed legs, thumb and forefinger action, and peculiar jerk of the head while drawing the thread, are the main features of sartorial habit. The following are only a few of the results: The muscles tended to recede into tendons and the bony surfaces into which they were inserted tended to grow in the direction of the traction which the muscle exerted upon them. The articulation between the sternum and the clavicle was converted into a very complex arthrodial joint, constituting almost a ginglymoid articulation. The sixth pair of ribs were anchylosed to the bodies of the vertebræ, indicating that they had ceased to rise and fall with sternal breathing, and that respiration was almost exclusively diaphragmatic. The region of the head and first two vertebræ of the neck was still more striking: the transverse process of the right side of the atlas, toward which the head was bent, formed a new articulation with the under-surface of the jugular process of the occipital bone, "a small synovial cavity surrounded this acquired articulation, but there was no appearance of a capsular ligament;" the left half of the axis was united by bone to the corresponding portion of the third cervical; there was found a new upward prolongation of the odontoid



EVOLUTION OF THE HUMAN UPPER MOLARS.—Fig. 9.—*Anaptomorphus*, a lower eocene monkey. Fig. 10.—An upper eocene monkey. Figs. 11 and 12.—Human, 11, Esquimaux; 12, negro. See addition of "talon," *hy*, to "trigon" composed of *pa*, *pr*, *me*.

[1] See especially the papers of Ryder, Cope, and the writer, "Evolution of Mammalian Molars to and from the Tritubercular Type," American Naturalist, 1889.

[1] The upper molars in many Esquimaux are triangular (as in Fig. 11); in most negroes they are square (Fig. 12). In our race they are intermediate.

[2] Journal of Anatomy and Physiology, 1888, p. 595.

peg of the axis, and a new accessory transverse ligament to keep it from pressing upon the cord. In short, "the anatomy of the shoemaker represents the fixation and subsequent exaggeration of the position and tendencies to change which were present in his body when he assumed the position for a short period of time.

Rate of Inheritance.—This illustration serves also to emphasize the great contrast between the rapidity of individual transformation and the slowness of race transformation. No one would expect the son of this shoemaker to exhibit any of these acquired malformations. Yet Dr. Lane thinks he has observed such effects in the third generation by the summation of similar influences.

All palæontological evidence goes to show that the effects of normal habits, if transmitted at all, would be entirely imperceptible in one generation. The horse, for example, has not yet completely lost the lateral toes which became useless at the end of the upper eocene period. This objection as to rate of evolution may be urged with equal force against the natural selection theory. It is obvious that the active progressive principle in evolution, whatever it is, must contend with the enormous conservative power of inheritance, and this, to my mind, is one of the strongest arguments against the possibilities of the rise of adaptive organs by the selection of chance favorable variations in the germ-plasm.

Application to Human Evolution.—Principles underlying these illustrations may now be applied to some of the facts in human evolution brought out in the first lecture. They show that if functional tendencies are transmitted we can comprehend the distinct evolution history of each organ; the rise and fall of two organs side by side; the definite and purposive character of some anomalies; the increase of variability in the regions of most rapid evolution; the correlation of development, balance, and degeneration in the separate organs of the shoulder, hand, and foot.

Yet even granting this theory, there still remain difficulties. The relation of use and disuse to some of the contemporary changes in the human backbone is rather obscure. I would hesitate to pronounce an opinion as to whether our present habits of life are tending to shorten the lumbars, increase the spinal curvatures, and shift the pelvis, without making an exhaustive study of human motion. Among the influences which Dr. Lane has suggested[1] as operative here are the wearing of heeled shoes and the increase of the cranium. He considers the additional or 6th lumbar vertebra as a new element rather than as a reversion, and works out in some detail the mechanical effects of the presence of the fœtus upon female respiration (*i.e.*, in the sternal region) and upon the pelvis. Now, if it be true that the pelvis is larger in the higher races than in the lower, I do not think that Dr. Lane can sustain his point, because in the lower races the fœtus is carried for an equally long period, during a much more active life, and in a more continuously erect position. Therefore, if these mechanical principles were operating, the pelvis in the modern lower races should be larger than in the higher. On the other hand. the form of the female pelvis in the higher races is one of the best established selecting or eliminating factors, a large pelvis favoring frequent births and the preservation of those family stirps in which it occurs. I mention this to show how cautious we must be in jumping to conclusions as to kinetogenesis.

The transformism in all the external features of the skull, jaws, and teeth may be attributed to inherited tendencies toward hypertrophy or atrophy; but how about the convolutions of the turbinal bones or the complex development of the semicircular canals and cochlea of the internal ear and the many centres of evolution which are beyond the influences of use and disuse? These are examples of structures which fortify Weismann's contention, for if complex organs of this character can only be accounted for by natural selection, why consider selection inadequate to account for all the changes in the body?

Difficulties in the Natural-Selection Theory.—The answer, I think, is readily given: We do not know whether use and disuse are operating upon the mechanical construction of the ear; we do know that the organ can be rendered far more acute by exercise; but even if it were true that habit can exert no formative influence, the ear is one of those structures which since its first origin has been an important factor in survival, and may therefore have been evolved by natural selection. Now the very fact that selection may have to care for variations in such prime factors in survival as the ear, renders it the more difficult to conceive that it also is nursing the minutiæ of variation in remote, obscure, and uncorrelated organs.

Even in the brief review of human evolution in the first lecture I have pointed out eight independent regions of evolution, upward of twenty developing organs, upward of thirty degenerating organs. A more exhaustive analysis would increase this list tenfold. Now, where chance variation should produce an increase in size in all the developing organs, and a decrease in size of all the degenerating organs, and an average size in all the static organs, we would have all the conditions favoring survival. But the chances are infinity to one against such a combination occurring unless the tendencies of variation are regulated and determined, as Lamarckians suppose, by the inheritance of individual tendencies. But may not the favorable variations in the body be grouped to either outweigh or underweigh the unfavorable variations? This would be possible if combinations occurred, but we can readily see that combinations, such as we observe in the separate elements in the foot alone, completely neutralize each other so far as "survival" is concerned; how the foot would neutralize the hand, or the foot and hand would neutralize the lumbar region.[1]

It is this consideration of single organs, the observation of their independent history, the rise of new compound organs, by steady growth from infinitesimal beginnings of their separate elements, the combined testimony of anatomy and palæontology which force us to regard the theory of evolution by the natural selection of chance variations as wholly untenable. With the utmost desire to regard the discussion in as fair a spirit as possible, the explanations offered by the adherents of Weismann's doctrine strike me as strained, evasive, and illogical.[2]

We can, however, by no means undervalue or dispense with natural selection, which must be in continuous operation upon every character of sufficient importance to weigh in the scale of survival. I need hardly remind you that this selecting principle was first discovered in 1813 by Dr. W. C. Wells, of Charleston, in connection with the immunity from certain tropical diseases enjoyed by negroes and mulattoes.[3]

The eliminating factor in selection is illustrated almost daily in cases of appendicitis. I regret I have not had time to ascertain whether or not this disease is considered due purely to accident or to congenital variation in the aperture of the appendix, which favors the admission of hard objects. If so, modern surgery is only benefiting the individual to the detriment of the race by its efficient preventive operations; and every individual who succumbs to this disease can reflect with melancholy satisfaction that he does so *pro bono publico.*

Conclusions as to the Factors of Evolution.—The conclusions we reach from the study of the muscular and skeletal systems are therefore as follows: 1st. That individual transformism in the body is the main determinant of variations in the germ cells, and is therefore the main cause of definite progressive or retrogressive variations in single organs. 2d. That evolution in these organs is

[1] Journal of Anatomy and Physiology, 1888, p. 219.

[1] I have expanded this idea fully in recent papers upon the theory of evolution of the horse. See "Are Acquired Variations Inherited?" American Naturalist, February, 1891.

[2] See Weismann's last essay, Retrogressive Development in Nature, Biol. Mem., trans., in press.

[3] See Introduction of Darwin's Origin of Species.

hastened, where all members of the race are subject to the same individual transformism. The contrast between the rate of individual transformism and race transformism is due to the strong conservative forces of the germ-plasma. 3d. That evolution is most rapid where variations are of sufficient rank to become factors in survival. Then selection and use-inheritance unite forces, as active progressive principles opposing the conservative principle in the germ-plasma. 4th. That fortuitous and chance variations also arise from disturbances in the body or germ-cells; they may be perpetuated, or disappear in succeeding generations.

Applying these views to variation there should, theoretically, appear to be just those two distinct classes of anomalies in the human body which we have seen actually occurring. First, those in the path of evolution, arising from perfectly normal changes in the somatoplasm and germ-plasm. Second, those wholly unconnected with the course of evolution, arising fortuitously or from abnormal changes in the somatoplasm or germ-plasm; to this head may be attributed the whole scale of deformities. Thus transformism and de-formism should be kept distinct in our minds. Nevertheless the facts of de-formism contribute the strongest body of evidence which we can muster at present to prove that there does exist a relation between the somatoplasm and germ-plasm which renders transformism possible.

The Relations between the Somatoplasm and Germ-plasm.—We have seen reasons to take a middle ground as to the distinct specific nature of the body-cells and germ-cells, and this position is, I think, strengthened the more broadly we extend our inquiry into all the fields of protoplasmic activity.

There are three questions before us.

1. What is the evidence that the germ-plasm and somatoplasm are distinct?

2. What is the specific nature of the germ-plasm?

3. What is the nature of the relations which exist between the two?

1. The *separation of the germ-plasm* is in the regular order of evolution upon the principles of physiological division of labor. The unicellular organisms combine all the functions of life in a single mass of protoplasm, that is, in one cell. In the rise of the multicellular organisms the various functions are distributed into groups of cells, which specialize in the perfecting of a single function. Thus the reproductive cells fall into the natural order of histogenesis, and the theory of their entire separation is more consistent with the laws governing the other tissues than the theory which we find ourselves obliged to adopt, that while separate they are still united by some unknown threads with the other cells.

The morphological separation of what we may call the race-protoplasm becomes more and more sharply defined in the ascending scale of organisms. Weismann's contention as to the absolutely distinct specific nature of the germ-plasm and somatoplasm has, however, to meet the apparently insuperable difficulty that in many multicellular organisms, even of a high order, the potential capacity of repeating complex hereditary characters, and even of producing perfect germ-cells, is widely distributed through the tissues.

For example, cuttings from the leaves of the well-known hot-house plant, the begonia, or portions of the stems of the common willow-tree, are capable of reproducing complete new individuals. This would indicate either that portions of the germ-plasm are distributed through the tissues of these organisms, or that each body-cell has retained its potential quota of hereditary characters.

Among the lower animals we find the same power; if we cut a hydra or bell-animalcule into a dozen pieces, each may reproduce a perfect new individual. As we ascend in the animal scale the power is confined to the reproduction of a lost part in the process known as recrescence. As you well know, in the group to which the frog and salamander belong, a limb or tail. or even a lower jaw, may be reproduced. The only logical interpretation of these phenomena is, that the hereditary powers are distributed in the entire protoplasm of the organism, and the capacity of reproduction is not exhausted in the original formation of the limb, but is capable of being repeated. There has been considerable discussion of late as to the seat of this power of *recrescence*. It seems to me not impossible that, in the vertebrates it may be stored in the germ-cells, and it would be very interesting to ascertain experimentally whether removal of these cells would in any way limit, or affect this power; we know that such removal in castration or ovariotomy sometimes profoundly modifies the entire nature of the organism, causing male characters to appear in the female, and female characters to develop in the male.

So far as man is concerned it has been claimed by surgeons that genuine recrescence sometimes occurs; for example, that a new head is formed upon the femur after exsection; but my friend Dr. V. P. Gibney informs me that this is an exaggeration, that there is no tendency to reproduce a true head, but that a pseudo-head is formed, which may be explained upon the principle of regeneration and individual transformism by use of the limb.

Pflüger's opinion is that recrescence does not indicate a storage of hereditary power, that there is no pre-existing germ of the member, but that the re-growth is due to the organizing and distributing power of the cells at the exposed surface, so that, as new formative matter arrives, it is built up gradually into the limb. This view would reduce recrescence to the level of the *regeneration* process which unites two cut sections of the elements of a limb in their former order. It is partly opposed to the facts above referred to, which seem to prove the distribution of the hereditary power. Yet it seems to me quite consistent to consider these three processes—*a*, reproduction of a new individual from every part; *b*, recrescence of a new member from any part; *c*, regeneration of lost tissues—as three steps indicating the gradual, but not entire withdrawal of the reproductive power into the germ-cells.

I have not space to consider all the grounds which support the view of the separation of the germ-cells in man. Some of the more prominent are: the very early differentiation of these cells in the embryo, observed with a few exceptions in all the lower orders of animals, and advancing so rapidly in the human female that several months before birth the number of primordial ova is estimated at seventy thousand, and is not believed to be increased after the age of two and a half years. The most patent practical proof is that we may remove every portion of the body which is not essential to life and yet the power of complete reproduction of a new individual from the germ-cells is unimpaired. Among the many reasons advanced for pensioning the crippled soldiers of our late war you never hear it urged that their children are incapacitated by inheritance of injuries. The strongest proof, however, rests in the evidence I have already cited from heredity of the extraordinary stability of the germ-cells, which is the safeguard of the race.

2. The *specific nature of the germ-plasm* must be considered before we consider its relations. Wherein lies the conservative power of the germ-plasm, and in what direction shall we look for its transforming forces? You see at once that marvellous as is the growth of cells in other tissues, the growth of the germ-cell is still more so.

We find it utterly impossible to form any conception of the contents of the microcosmic nucleus of the human fertilized ovum, which is less than $\frac{1}{2500}$ of an inch in diameter, but which is, nevertheless, capable of producing hundreds of thousands of cells like itself, as well as all the unlike cells of the adult organism. We can only translate our ideas as to the possible contents of this nucleus in the terms of chemistry and physics.[1]

[1] See Ray Lankester, Nature, July 15, 1876.

Spencer[1] assumed an order of molecules or units of protoplasm lower in degree than the visible cell-units, to the internal or polar forces of which, and their modification by external agencies and interaction, he ascribes the ultimate responsibility in reproduction, heredity, and adaptation. This idea of biological units seems to me an essential part of any theory; it is embodied in Darwin's "gemmules," in Haeckel's "plastidules," yet, as Lankester says, the rapid accumulation of bulk is a theoretical difficulty in the material conception of units. In the direction of establishing some analogy between the repetition power of heredity and known function of protoplasm, Haeckel[2] and Hering[3] have likened heredity to memory, and advanced the hypothesis of persistence of certain undulatory movements; the undulations being susceptible of change and therefore of producing variability, while their tendency to persist in their established harmony is the basis of heredity. Berthold, Gautier, and Geddes[4] have speculated in the elaboration of the idea of metabolism; the former holding the view that "inheritance is possible only upon the basis of the fundamental fact that in the chemical processes of the organism the same substances and mixtures of substances are reproduced in quantity and quality with regular periodicity."[5]

I have merely touched upon these speculations to show that the unknown factors in heredity are also the unknown factors in operation in living matter. All we can study is the external form, and conjecture that this form represents matter arranged in a certain way by forces peculiar to the organism. These forces are exhibited or patent in the somatic cells; they are potential or latent in the germ-cells.

The last stage of our inquiry is as to the mode in which the action of habit or environment upon the somatic cells can be brought to bear upon the germ-cells.

The Nature of the Relation Between the Body-cells and Germ-cells.—I have already shown that we are forced to infer that such a relation exists by the facts of evolution, although these facts show that the transmission of normal tendencies from the body to the germ-cells is ordinarily an extremely slow process.

Virchow[6] says every variation in race character is to be traced back to the pathological condition of the originator. All that is pathological is not diseased, and inheritance of a variation is not from the influence upon one individual necessarily, but upon a row of individuals. This is in the normal condition of things. In the abnormal condition the rate of transmission may be accelerated.

Does this transmission depend upon an interchange of material particles, or upon an interchange of forces, or both?

There are three phenomena about which there is much scepticism, to say the least, which bear upon the question of a possible interchange of forces between the body and the germ-cells. These are the inheritance of mutilations, the influence of previous fertilization, and the influence of maternal impressions. They are all in the quasi-scientific realm, which embraces such mental phenomena as telepathy. That is, we incline to deny them simply because we cannot explain them.

Mutilations.—Since the publication of Weismann's essays the subject of inherited mutilations has attracted renewed interest. I would first call attention to the fact that this matter has only an indirect bearing, for a mutilation is something impressed upon the organism from without; it is not truly "acquired;" the loss of a part by accident produces a sudden but a less profound internal modification of the organism than the loss of a part by degeneration. Most of the results are negative; many of the so-called "certain" cases prove upon investigation to be mere coincidences. Weismann[1] himself experimented upon white mice, and showed that nine hundred and one young were produced by five generations of artifically mutilated parents, and yet there was not a single example of a rudimentary tail or of any other abnormality in this organ. The cases of cleft ear lobule have recently been summed up.[2] Israel reports two cases of clefts in which the parent's ears were normal. Schmidt and Ornstein report affirmative cases. His shows that an affirmative case, cited by V. Zwieciki, is merely an inherited peculiarity. The entire evidence is unsatisfactory, and, upon the whole, is decidedly negative.

Not so, however, in cases where the mutilation results in a general disturbance of the normal functions of different organs, as in the experiments conducted by Brown-Séquard[3] upon guinea-pigs, in which we see "acquired variation" intensified. In these, abnormal degeneration of the toes, muscular atrophy of the thigh, epilepsy, exophthalmia, etc., appeared in the descendants of animals in which the spinal cord or sciatic nerve had been severed, or portions of the brain removed. It was also shown that the female is more apt to transmit morbid states than the male; that the inheritance of these injuries may pass over one generation and reappear in the second; that the transmission by heredity of these pathological results may continue for five or six generations, when the normal structure of the organs reappears. These cases, which are incontestable, at first sight appear to establish firmly the transmission of acquired characters; they were so regarded by Brown-Séquard. These lesions act directly upon the organs, and the abnormal growth in these organs appears to be transmitted. But can they not be interpreted in another way, namely, that the pathological condition of the nerve-centres has induced a direct disturbance in those portions of the germ-cells which represent and will develop into the corresponding organs of the future offspring?

Previous Fertilization.—Consider next the influence exerted upon the female germ-cell by the mere proximity of the male germ-cell, as exhibited in the transmission of the characteristics of one sire to the offspring of a succeeding sire, observed in animals, including the human species, also in plants. The best example is the oft-quoted case of Lord Morton's mare, which reproduced in the foal of a pure Arab sire the zebra markings of a previous quagga sire.

Some physiologists[4] have attempted to account for these remarkable indirect results from the previous fertilization or impregnation, by the imagination of the mother having been strongly affected, or from interchange between the freely inter-communicating circulation of the embryo and mother, but the analogy from the action in plants (in which there is no gestation but early detachment and development of the fertilized cells) strongly supports the belief that the proximity of male germ-cells acts directly upon the female cells in the ovary. All that we can deduce from these facts is that in some manner the normal characteristics and tendencies of the ova are modified by the foreign male germ-cells without either contact or fertilization.

Maternal Impression.—The influence of maternal impressions in the causation of definite anomalies in the fœtus is largely a matter of individual opinion.

It is denied by some high authorities, led by Bergman and Leuckhart.[5] Most practitioners, however, believe

[1] Principles of Biology, vol. i., p. 256.
[2] Perigenesis der Plastidule oder die Wellenzeugung der Lebenstheilchen. Jena, 1875.
[3] Ueber d. Gedächtniss als eine allgemeine Function d. organischen Materie. Vienna, 1870.
[4] See also Thomson, op cit., p 102.
[5] Berthold: Studien über Protoplasma-Mechanik. Leipsic, 1886.
[6] Ueber den Transformismus, Archiv f. Anthropologie, 1888, p. 1.

[1] Biological Memoirs, p. 432.
[2] Journal of Anatomy and Physiology, 1891, p. 433.
[3] Comptes-Rendus, March 13, 1882. These experiments have been confirmed by Obersteiner.
[4] See the cases cited by Ribot and Darwin: Animals and Plants under Domestication, vol. i., p. 437.
[5] Handerwörterbuch der Physiologie, Wagner, Artikel "Zeugung," Leuckhart.

in it, and I need hardly add that it is a universal, popular belief,[1] supported by numerous cases. I myself am a firm believer in it. The bearing which the subject has upon this discussion is this: if a deviation in the development of a child is produced by maternal impression, we have a proof that a deviation from normal hereditary tendencies can be produced without either direct vascular or nervous continuity.

We see an analogy between the experiments of Brown-Séquard, the influence of the previous sire, and the maternal influence. Neither, in my opinion, directly supports the theory of transmission of acquired characters, for they do not prove that normal changes in the body-cells directly react upon the germ-cells; they all show that the *typical hereditary development of single organs may be diverted by living forces which have no direct connection* with them according to our present knowledge.

What the nature of these forces is, I will not undertake to say; but I believe we must admit the existence of some unknown force, or rather of some unknown relations between the body-cells and germ-cells.

A year ago, recognizing fully the difficulty of advancing any theory of heredity which would explain the transmission of acquired characters, I came to the following result: "It follows as an unprejudiced conclusion from our present evidence that upon Weismann's principle we can explain inheritance but not evolution, while with Lamarck's principle and Darwin's selection principle we can explain evolution, but not, at present, inheritance. Disprove Lamarck's principle and we must assume that there is some third factor in evolution of which we are now ignorant."

In this connection it is interesting to quote again from my colleague, Professor E. B. Wilson. He writes that the tendency in Germany at present is to turn from speculation to empiricism, and this is due partly "to the feeling that the recent wonderful advances in our knowledge of cell phenomena have enormously increased the difficulties of a purely mechanico-physical explanation of vital phenomena. In fact, it seems that the tendency is to turn back in the direction of the vital-force conception. . . . As Boveri said to me recently. 'Es gibt zu viel vorstand in der Natur um eine rein mechanische Erklärung der Sache zu ermöglichen.'"

In the final lecture we turn to the forces exhibited in the germ-cells.

(To be continued.)

Hot Bathing in Japan.—In hygienic matters the Japanese have everywhere a habit which may have a lesson for us. In their nightly bath and morning wash the water is never cold, never warm, but always as hot as it can be borne. To foreigners this habit seems very surprising, but the most inveterate Englishman, if he stays in the country long enough, abandons his cold tub in its favor. The cold-taking which it is suspected must follow it is found not to occur if the water has been hot enough. This heat is maintained by a little furnace beneath the bath. In the bath the bather or bathers take a prolonged soaking, the washing proper being done on the bath-room floor; then follows a second and final soaking, drying with towel, and a lounge in bathing wrapper. This habit seems to promote softness and suppleness of the skin, and by persons inclined to rheumatism is soon found to be altogether preferable to the cold bath in every particular. The poorest of the Japanese hear of a cold bath with amazement, and would be sure the man who used it must be a barbarian. With respect to the superiority of the hot bath over the cold, I have come to find that in my own case certainly the Japanese are right.—Dr. Benjamin Howard, in the *Lancet*, January 16, 1892.

"Have Your Teeth Pulled Out for a Christmas Present," was the cheerful sign displayed by a London dentist for a few weeks before the holidays.

[1] See Medical Record, October 31, 1891, an article by Joseph Drzewiecki, M.D.

Original Articles.

THE SINGER'S THORAX.

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The lungs and heart of the habitual singer are engaged in mutual digressions from stability in behavior. Therefore we must consider these organs conjointly. The heart normally performs four complete cycles during one respiratory act. This order constitutes the rhythm. But the vocalist extends the expiratory effort over the time occupied by forty or fifty heart-throbs, and almost effaces the respiratory pause and inspiratory period. Besides this disturbance of the elements constituting the act a unit, there is a breach in the equilibrium normally existing between the heart and the lungs. Admitting that there is reciprocity in these acts and their elements which permits, for a season, more or less variation, there must be evil follow the deviations from natural rhythms, but with so small influence as to escape analysis. There is an unanimity of purpose in the close relation of these two vital organs, and it is for the dual functionation, denominated elimination and oxygenation. In these functions the heart is too often left out of the account, whereas the lungs should be regarded as the more passive agents, and the heart the active factor, in both functions. It will be admitted that these functions must be trammelled if the heart is sending through the lungs the entire contents of the circulation during one prolonged expiratory effort. It is a fact that during the execution of forty to fifty heart-cycles the entire amount of blood in the body is pumped through the organ. The demands for oxygen and elimination are among the main promoters of rhythmic behavior of the heart and lungs, and therefore an added difficulty is forced in the way of their concerted action every time the musical executant utters a prolonged phrase. There will speedily follow a disturbance manifested by irregular contractions of the heart. The pulse may exhibit tachycardia or bradycardia, due to the vacillating nervous and muscular tonicity of the cardiac muscle. The nerve elements which animate the heart and preserve it in equipoise—the ganglia—are first confused, then become aberrate, and finally insane. In the complex of the acts of the singer's heart, we observe the consequences of habitual interference with normal movements, resulting from exercise of the will, and sooner or later, as a concomitant, appears a physiological disturbance of function, which augments the difficulties in geometric ratio. Thus is forced upon the heart, insidiously but surely, a permanent unstable equilibrium. As one of the direct and natural results of the want of equilibrium, we find that the vocalist is forced into the extremes of pulmonary activity by slight causes. In other words, the singer is easily "winded," in consequence of exercise outside of his customary vocation. The circumstances and physiological factors contributing to establish and maintain this peculiar form of dyspnœa, become more simple and obvious as the investigation proceeds. The gradations may be found to prevail from eupnœa to the profoundest dyspnœa or opnœa. The initiatory is usually a sighing or a simple desire for longer inspiration, apparent in the quiescent state of the subject. "Shortness of breath" is the common expression which conveys the experience of the patient to his physician. The actor who mingles gesture with singing and varying posture, finds that positions he once assumed are accomplished with greater difficulties to the respiratory acts than formerly. The phrases which once were executed with comparative ease become difficult, if not impossible, and, to give them needed force, it is necessary to divide them. These conditions are rarely observed until the subject is well along in the thirties, although I have met with a number who became

conscious of the oppression as early as twenty-five. Among those earliest influenced the women predominate. Contrary to a reasonable anticipation, I noticed that those who exhibited the greatest lung area and presented the barrel shaped chest, gave the most typical form of the singer's dyspnœa. It is readily demonstrated that increased mobility of the lungs and thorax do not follow enlargement of the pulmonary apparatus. As long as the singer continues to exercise the lungs they increase in dimensions; but this augmentation in size is due to an increase in the circulatory area of the pulmonary apparatus. The forcible expiratory efforts irregularly effected, the constant practice, the persistent exercise during day and night by the professional vocalist, continued for months, and even years, uninterruptedly, form a procession of influences, the contemplation of which must evolve rational thoughts of the abnormal character of strength thus achieved. The heart feels the demand for increased systolic power, especially in the thin right ventricle, which is subjected to the major portion of the stress, and nature responds with hypertrophy. The first demand for hypertrophy supplies the need not only, but tends to further enlarge the area of the pulmonary circulation. The pulmonary capillaries will continue to dilate and augment in size and number. The increased blood-pressure is noticed mainly in the capillaries surrounding the vesiculi. By the amplification of the capillary vessels they exert pressure upon the alveoli, indenting their walls and limiting the breathing membrane. Although this area be amplified, the pulmonary artery inlet and the outlet of the pulmonary veins continue of their former calibre. Thus related, the openings present to the abnormally widened pulmonary circulation the condition of relative narrowing. These circumstances impart to the pulmonary capillary system the character of erectile agents, and they confer upon the lungs thus exercised their rotundity and apparent development without corresponding elasticity. On the other hand, the conditions described are unfavorable to the interchange of gases, and the blood may acquire a dyspnœic character. The greater the excursions of the alveolus, the better the blood is aërated; but their mobility is decreased by the rigidity thus attained. To these barriers to a free respiration may also be added the influence upon the heart of the encroachment upon the area of the thorax by the enlarged volume of lungs, and its abnormal persistence. This increased fulness of the chest can only proceed without decisive embarrassment of the respiratory acts to the limit where the environments begin to act as obstructions. To recapitulate: As long as the singer continues to exercise the lungs, the larger they grow. The heart, which is the only organ that is unceasing in its relative increase until age, also takes on an undue augmentation in bulk. The environments assume a greater rigidity, and cease to develop at a time when ossification approaches completion, as would be in the thirties. Thus, I think, are explained the phenomena of the singer's dyspnœa in a rational and physiological manner.

One long familiar with the study of the singer's thoracic organs will scarcely fail to observe a peculiar disposition to neurotic irritability of the heart. To become a singer or dramatic reader requires that there be an inherent sensitive or irritable nervous system. In some cases the nervous system itself may be well preserved, and yet the neurosal element do mischief by spurring on the already goaded heart and lungs. The constant assumption of passions always severer than the genuine, the attempts to appear at ease when most uncomfortable, the prolonged mental excitement lasting for all the hours of a performance—not limited to the time of the presence of the artist before the audience—all bespeak an abnormal altitude in the neurosal irritation, which might excuse the hysterical experiences so common among those of the operatic and concert stage. The pose of a dramatic singer or reader is rarely natural and easy. Unnatural rigidity of the muscles prevails. Coldness of the extremities intimates the interference with the peripheral circulation; lividity of the lips and tremor cordis betray the exalted neurotic pressure. Directly and indirectly appear the results of this overwrought nervous influence through the medium of cardiac misbehavior. In all foudroyant effects, which are so sudden and overwhelming in some of the graver forms of heart maladies, there appear the obvious evidences of momentary nervous shock and emotion. The absence of such considerations, in our estimate of heart demeanor, makes all investigations vague, changeable, and misleading.

For years the hypertrophy is regulated so neatly to the demand for compensation in the heart-muscle, and the persistence and severity of the vocal excesses, that the changes going on are fairly masked to all but the most careful diagnostician. This may continue until an interruption of the vocal activities, or a complete cessation of the accustomed exercise. Then they may be called from obscurity in a sudden and alarming manner in consequence of a diminution in the hypertrophy without a corresponding subsidence of the pulmonary requirements. Injuries which force the singer into the quiescent state, and compel the recumbent position, furnish the purest examples of cardiac debility succeeding upon abstinence from vocal exertion. I find in my notes several of these cases. A striking one is that of a man, aged thirty-three, and a constant singer, who had broken his thigh, was anæsthetized with chloroform while the fracture was dressed. He remained recumbent nearly six weeks with but occasional changes of position. In his earliest attempts to move upon crutches he suddenly became faint and fell to the floor, reproducing the fracture. He was then sent to the hospital to afford more perfect surveillance; chloroform was again exhibited preparatory to redressing the fracture; but after a few inefficient inhalations his heart ceased to beat forever. The autopsy revealed no abnormalities sufficient to contribute to death, except large lungs and engorged and dilated right heart. I think this case will suffice to illustrate the theory I assume. It has been obvious enough to my mind, for some years, that a condition does uprise in the singer's heart when abstinence from wonted activity will permit muscular deterioration and dilatation. At all times and in all cases, there is an unstable equilibrium produced by the varying character of the efforts—ranging from active hypertrophy to dilatation, and back again—and these in perfect accord with the varying degrees of exercise and rest. Thus is proven one fact that I desire to urge, viz.: That the true cardiac gymnastics for the vocalist are the more or less protracted exercises to which he has accustomed himself, and in the absence of such stimulus to his heart muscle, the necessity of the oversight of his physician. Especially should these observations be noted in cases where the symptoms of dilatation have already shown themselves. Hearts once impaired, depleted, and impoverished, need but slight insult to permit the occurrence of an incurable lesion.

The fatal disposition of diseases invading the chest of the active vocalist has failed of its merited significance, and scanty data are furnished, rather from want of opportunity or time for observation than absence of facts corroborative of the assumption. In self-limiting maladies the integrity of the heart-muscle is the one important anchorage of our hopes. Acute heart maladies add to the sum of their dangers when they invade a heart long irritated by overwork. Owing to the unstable character of the right side, the left side lesion, in these cases, has but a short course to run, and that without expenditure of much time, in producing the secondary sequelæ. Pneumonitis claims as fatal fifty per cent. of the vocalists attacked. Many of our world renowned singers have succumbed to acute inflammation of the lungs. In my experience, an average pneumonitis or endocarditis is, for the vocalist as to none other, a sure passport to the beyond. Such diseases of the membranous portions of the

breathing apparatus as the varied forms of bronchitis, pleuritis, etc., are unusually difficult of management, and are more acute and dangerous to life. Diphtheritic poison has a specific affinity for the tissues in which the well-being of the vocalist is directly concerned. Diphtheritic croup becomes a probability to boys affected with diphtheria, and who keep their immature vocal organs under stress in boy choirs. Besides the character of severity, may be added the proneness to these maladies incident to the high blood-pressure constantly maintained in the lungs and air passages. With this mutual digression from stability of demeanor in the thoracic organs, there are necessarily involved other functions and organs not within the province of this paper to discuss. Vascular diseases may follow as a sequence to the backward obstruction into the veins, and the influence of bodily decline upon the cardiac muscle of the singer is very obvious and deplorable.

The diagnosis as to the condition of the lungs can readily be made out. There is on inspection a large barrel-shaped chest in most cases. There is an evident want of correspondence between the size of the chest and inspiration and expiration. Unless these acts are urged, they are not marked by force as would be expected from the chest development. Palpation often reveals the intercostal spaces wide, and the thoracic movements superficial and accelerated. Percussion discovers a lowered percussion note due to tension of walls and large and compact lungs. Auscultation reveals the vesicular murmur intensified, with a tendency to puerile respiration. Jerky respiration is sometimes observed over various portions of the lungs.

As to the heart, inspection, palpation, and percussion are all deprived of their customary exactness on account of the extension of the chest walls, which are usually muscular, as well as the augmentation in the bulk of the lungs, which forces over the triangular space, commonly exposing the heart, a heavy cushion of lung-tissue. Under most favorable circumstances the right side of the heart is obscure, and enlargements are often matters of inference. Auscultation is our best method of physical diagnosis, and the exquisite click of the pulmonary semilunar valves, with the decisive accentuation of the second sound, are corroborative of other evidences adduced from the vocation, history, and age of the patient. The accentuated pulmonary valve-sound intimates tension of the pulmonary circulation only, but if it has so continued its efforts for months, we infer there is hypertrophy of the right ventricle. Therefore we mainly depend upon the accentuation of the pulmonary valvular sound together with the history, as before mentioned, to establish hypertrophy. Dilatation is so sudden and unpremeditated, and its results so startling, that the history is mainly to be relied upon. The vacillating character of the heart-muscle makes one investigation contradictory to the other, and the want of stability of the heart-muscle is thereby established.

As to prognosis: The age at which the vocalist begins his efforts has much to do with his future. The heart has its special periods of rapid development, and alternates with others of quieter increase. During that important transition period existing between puberty and maturity, the heart is found to double its bulk. So that at twenty-one years the heart is just twice as large as at sixteen. It is harmful at this time to encumber the action of the heart by extremes of vocal exercise. Assiduity and ambition favor excesses, and contribute to the dangers in the path of the student of vocal music at any age. The halo of glory which hangs about the head of the precocious vocalist, comet-like, threatens while it shines. Those who gradually accustom themselves to the exercise will longest postpone the zenith of difficulties, and they who with similar gradations subside from its activities will best withstand. Nevertheless, a permanent abnormal energy of the heart, a pulmonary rigidity, and a barrel-shaped chest are acquisitions of the chronic vocalist. Signs of cardiac debility should deter any one from vocal study. To attempt proficiency in the presence of functional derangements would be ill advised, and if positive lesions exist vocal exercises would be foolhardy.

Sex considerations prove that in ordinary heart maladies women are more often exempted, partly because of their absence from the exciting causes common among men, and also because of their less laborious vocations and freedom from exposure. In these forms of heart difficulty, in each particular, these rules are reversed. Women are more often students of vocal music, are more persistent and painstaking, and more frequently aspire to the stage than men. They are, as a class, more severely tried by vocal efforts because of peculiar respiration, neurosal tendencies, special functions, and manner of dress. The results come earlier in life to women, and may be estimated as belonging to an age at least one quinquenaud below that of men.

In making up a prognosis it would be well to keep in mind the fact that right-sided hypertrophy, even if perfectly compensating, is more evanescent, and for many, and for the most part obvious, reasons, cannot be regarded as beneficent or as reliable as left-side hypertrophy. Complete compensation may in these cases be preserved for years, and even though enforced rest from injury or prolonged illness reduce the heart capacity, a knowledge of the causes and conditions as here presented will enable a rational and effective resort to therapeutics, on the part of the physician, which will redound to the patient's physical welfare.

AN ENORMOUS CONGENITAL UMBILICAL HERNIA WITHOUT CUTANEOUS COVERING—OPERATION—RECOVERY.

By SAMUEL C. BENEDICT, M.D.,

VICE-PRESIDENT NATIONAL ASSOCIATION RAILWAY SURGEONS, ATHENS, GA.

At 6 A.M. Saturday, January 9, 1892, I delivered, instrumentally, Mrs. C. D. F——, primipara, aged thirty-three, of a large male child, approximating ten pounds in weight, well formed and rounded, and of perfect development, with the exception of the anterior walls of the abdomen around the umbilical cord, as described below. Presentation, R. O. A.

Upon raising the bedclothes to tie the cord, I found a protrusion of the abdominal viscera through a circular opening in the abdominal wall four inches in diameter, the tension upon the cord materially increasing the protrusion. Quickly tying the cord and dividing it, I handed the child to the nurse, with directions to say nothing, but to keep her hand firmly pressed down upon the protruding mass. After having given the mother the necessary attention, I had the child moved to the adjoining room for dressing, and there, upon further examination, found the following condition:

There was an entire arrest of development in the skin and muscles of the umbilical region of the abdomen, the edges of the skin forming a perfect circumference of a circle whose radii were two inches, and adherent by a rounded edge to the peritoneum and reflected covering of the cord, which was spread over the whole mass adherent to the mural peritoneum. The umbilical cord passed out from the lower edge of the hernia, and one and a half inch from the pubis. The color of the mass at birth was a dark bluish-black, and the coverings so thin that the movements of the viscera within could be seen. Realizing that I had a desperate condition of affairs to deal with, and being undecided just then what to do, I covered the whole mass with dry bichloride gauze, bandaged firmly with a flannel roller an inch and a half wide, and had the child dressed, giving directions to handle carefully and prevent crying as much as possible. The same day I began to hunt up authorities upon umbilical hernia, and failed absolutely to find in any work on surgery at my command any report upon or instructions for dealing with such a case. Wyeth, Ashhurst, Erichsen, Reference Handbook, etc., were searched, but in vain.

In Gross's "Surgery," vol. ii., p. 712, issue of 1859, is a very accurate description of the condition, and the only thing of the kind I could find. He says: "When umbilical hernia is large, death usually takes place in a few days after birth from the effects, apparently, of peritoneal irritation. If the child survive, an attempt may be made," etc. Seeing no possible chance for this child to survive with the large area of peritoneum to be exposed when the cord covering should slough off, I decided that there was nothing to do but to attempt an operation. Accordingly, on Monday, January 11, 1892, and fifty-three hours after birth, the operation was made. With the assistance of Dr. James C. Bloomfield and Dr. John Gerdine, the latter giving the anæsthetic, I began by attempting to dissect up the now dead and yellowish-white membrane covering the peritoneum. This was the most difficult part of the whole work, as it was firmly adherent to the external surface of the mural peritoneum, and the dissection had to be carefully done in order to avoid tearing or cutting the peritoneum, which was as thin as a cobweb and tore upon the slightest tension, exposing more than once the cavity. After dissecting off, as best I could, to the skin circumference, I divided, close down to the lower portion of the wound, the umbilical cord and vessels, now a dried and shrivelled mass and giving no blood upon section. It had been hoped that I could pare the rounded edges of the skin and, by tension upon it, invaginate the peritoneum and so approximate the edges in a perpendicular line. This was found impossible, as, besides the firm union of the skin to the peritoneum, the liver and spleen occupied a large portion of the hernia, the intestines being at the lower portion only. I then penetrated the skin circumference with a pair of fine-pointed conjunctival scissors, curved on the flat, and cut the skin closely to the peritoneum all the way around, leaving a ring of skin an eighth of an inch wide, approximately, still adherent to the peritoneum. The skin was then dissected up for two or three inches to the sides before sufficient was obtained to approximate, and even then with difficulty, by reason of the great intra-abdominal pressure.

The approximation was made upon the subcutaneous surface rather than upon edge of skin, in order to get a broader contact. This was held together by three silver pins, an inch long, wound with silk in the figure of 8 way, and intermediate apposition obtained by black silk interrupted sutures. The line of approximation was about four inches long, and perpendicular, and this was first dusted with iodoform, strengthened by adhesive plaster, covered by narrow strips of rubber tissue, bichloride gauze, cotton, and a firm flannel bandage. Bichloride solution was used for personal cleanliness, carbolic acid for instruments, and boiled sodium chloride solution for wound surfaces.

The operation lasted fifty minutes, the child, two days' old, taking only half an ounce of chloroform and rallying promptly and in good condition. Directions were given for one drop of paregoric every hour or two, if necessary to quiet the child, and we left, satisfied that peritonitis would develop within forty-eight hours. We were agreeably disappointed. There was never any elevation of temperature or abnormal rapidity of heart's action, the child resting nicely with not over an average of a drop of paregoric every four hours.

The wound was not examined until the third day, when it was found that the skin had become adherent over the peritoneal surface and along the line of approximation, although there was considerable redness a half inch or more outside of this line, this gradually subsiding. Upon the fifth day it was found that the tension had loosened the silver pins, so that they, with the sutures, were removed and their place supplied by adhesive strips. On the tenth day I found a separation of the edges about an inch in length, and exposing a granular space of peritoneum one-quarter of an inch wide at the widest part. This was drawn together by strapping, and a rubber plaster band, three inches wide, passed around the body, and laced over the gauze covering the wound, answering the purpose of resisting the great intra-abdominal pressure so well that to-day, January 30th, there is complete union everywhere. The child has never acted other than any child of its age, has nursed regularly and with avidity, bowels and bladder acting normally. Paregoric has been used occasionally, chiefly at night, but never over six drops during the entire night, and the child was always easily aroused from sleep. There is now nothing to show for the hernia but the line of cicatrization, four inches long, which is a finer truss than anything else could be.

When the little fellow tries or strains there is a slight round bulging at the umbilical opening, but not enough to give cause for further uneasiness, and this is kept down by a silk elastic bandage, four inches wide and thirteen inches long, made by Williams & Co., of Baltimore. The child, of course, has no navel, and never will, and if he lives long enough may some day be, upon the Tom Sawyer principle, the envy of his fellows in bathing. The case as it now stands is an unanswerable argument in favor of a strictly aseptic mode of procedure, by which a cure has been made of a condition from arrest of development which I do not believe has ever before been attempted with success following.

Have any one of your readers known of such a case?

106 East Clayton Street, January 30, 1892.

THE HYGIENE OF THE HOLY COMMUNION.

By W. M. PARKER, M.D.,

MANCHESTER-BY-THE-SEA, MASS.

A recent item in the Medical Record concerning "The Communion and Prohibition," and one which has been copied into other medical journals, contains some points which are worthy of professional attention. I have been consulted professionally on the questions which have been raised in this connection, and I presume many others of the profession have had the same experience. The "temperance committee" of a certain parish called at my office and asked my advice and assistance in creating a sentiment against the use of wine at Holy Communion, stating that one young man for whom they were making efforts for his reform relapsed suddenly upon being present at the services on Communion Sunday—the strong smell of the wine fairly driving him to his "cups" again by creating a longing he could not overcome. They stated that very likely others were similarly affected throughout the country, which would make the practice one to be condemned. The statement in the Record seems to me to answer the objection: "While it is not exactly within the province of a medical journal to discuss purely theological questions, yet we cannot but wonder at the apparent lack of faith in a Christian minister, who can believe that anybody could be plunged into sin by doing what his religion commands him to do; for it is evidently the duty of a professing Christian to obey the precepts of his church."

Where a man is so weak that merely the smell of wine excites him to uncontrollable emotions, such a person should avoid the exciting cause and remain absent until his spiritual strength rose higher than his abnormal appetite. It would seem highly unjust to ask hundreds to forego the ceremonies of their religion to aid in securing temperance in one or two, and it is very doubtful, even if such a radical change could be made, that it would suffice! Perchance passing a drug store might suggest alcoholic odors, and then we might have requests to abolish drug stores! Where such a passion for drink exists and the patient cannot control his emotions he is certainly not cured, and he requires further treatment before it is expedient for him to mix freely in the affairs of normal life. The item referred to, having disposed of the question of prohibition, proceeds to discuss the hygiene of the Holy Communion as follows:

"But there is a medical side to the rite of Communion concerning which a word may be said. And that is the passing of the cup to a whole line of communicants for them to drink from, one after the other. There are certain diseases which are highly infectious, and which might readily be conveyed to the well by means of a cup moistened with the lips of others. We do not refer to syphilis only, although the danger of that must be apparent to all, for it is not every earnest Christian who has always been a Christian, or who has not at some time strayed from the narrow path; but there are other diseases the contagion of which may be spread in the same manner. In the Catholic Church this danger does not exist, and while desiring in no way to enter theological fields we believe that the Protestant churches might do well to consider, in these days of hygienic enlightenment, whether they acted wisely in departing from the ancient Catholic custom of giving the Communion in one kind only."

It seems to me very unfortunate for many reasons that this subject has come up for discussion in our medical journals, but it is no more than fair that, having arisen, the "other side" of the argument should be entitled to a hearing.

Some eight years ago I sent out circulars to prominent clergymen and medical men in this country and in Europe. Copies of these circulars were also published in our leading medical journals. The questions propounded were: 1, As to the danger from the use of the chalice or cup in the Holy Communion; 2, as to any precautions taken by the clergy to prevent contagion; and 3, whether any medical man knew of any case where disease of any kind had been acquired through contact with the cup in the celebration of the Eucharist. The result was I received a very large number of answers from medical men and clergymen of many different Protestant nations. An immense amount of professional opinion was received, but at the earnest solicitation of some clerical friends I abstained from making known the results of my investigations, lest even the mere discussion of the question might provoke statements likely to produce fear in the timid, or thought in others, which might detract from the solemnity of the ceremonies. In all this mass of professional experience and of carefully-prepared opinions, not one case could be found either in this country or in Europe where any injury had resulted of any kind whatever. While some admitted the possibility of danger, no one could produce a solitary instance casting suspicion upon the chalice as a source of contagion. One distinguished surgeon of New York City described a case of a wine merchant who tasted some wines he was sampling with a commercial traveller, and acquired thereby syphilitic infection. Here was contagion from one mouth to another through the medium of the wine-cup. The statement that "it is not every earnest Christian who has always been a Christian, or who has not at some time strayed from the narrow path," may be true enough, but I doubt very much if it happens, except under infinitesimally rare instances, that a syphilitic is present at the Holy Communion, and, if present, that it would be during the infectious state of the disease. Even the wife of such a patient is seldom in a condition to convey the poison through the slight contact of the lips with the chalice in the Holy Communion. Whether "the cup," which is so sacred, and which has been the greatest of all comfort to millions of people, needs at this late date to be brought under suspicion, is a question better left undiscussed.

There is so much of obvious importance awaiting needed investigation in sanitary science that the hygiene of the Holy Communion may be left to the wisdom of the ecclesiastical authorities, many of whom are singularly well versed in medical matters, and some of whom have taken high rank in the medical profession. With many sensible men, who have faith in God and in religion, the belief exists that if one leads a virtuous life he can attend to any or all the requirements of religion without danger of acquiring venereal disease thereby. We all know how many men seek to account for venereal infection by claiming almost impossible causes, and surely in this instance almost any physician's suspicion would be aroused by the statement, that disease had been acquired in the sacred ceremonies of religion. Surely it were better to inquire into the hygiene of the railway car and station water cups, and into the sanitary management of public places in general, as requiring our most urgent attention.

In the matter of precaution exercised by the clergy in the celebration of the Holy Communion a wide difference of opinion exists. In many of my correspondents I found a positive aversion to even think of such things at such a time, and as the greatest danger, especially in the Episcopal Church, falls upon the clergyman who consumes the last contents of the chalice, we can attain very little by discussion. Many clergymen wrote to me that it is their custom to continually turn the chalice as each communicant received, and when the circle had been reached to rapidly cleanse the rim of the cup with the purificator or small linen napkin held in the hand for that purpose. This surely would remove all vestige of dangerous mucus. It is greatly to the credit of those who practise this custom, when we consider the subject in the interest of hygiene, and it is to be hoped for the sake of those who may be timid, that this hygienic custom may be universal in Protestant churches, but for many such precautions would be highly unnecessary if not positively obnoxious. "It implies distrust," is the argument of some, "as to the cleanliness of the communicants." Such sensitiveness is also to be discouraged. A custom amounting almost to a rubric would be of great value in the management of the chalice during communion, and the use of a purificator, as already described. In the Roman Catholic Church this danger cannot exist, as the chalice is used only by the priests. I have been informed by a prominent physician of that church that for the very reason which we have been discussing the church had decided to withhold the chalice, but this has been denied to me by priests well versed in church history. Whatever the reason the fact remains the same, and this applies with equal strength when we assert that for a possible source of contagion we may utterly discard our searchings in the chalice for such unfortunate results.

We may safely believe that He who instituted the sacred feast will be equally strong to guard His children against such dreadful dangers. This is certainly not very much to ask of a believer, and those who do not believe are not likely to be recipients of the chalice and hence not exposed to any dangers which might possibly (?) lurk within or upon it! Communicants will be ready and willing to assume any dangers; indeed who does not know of cases where dangers of much greater magnitude have been gladly undergone for the pleasure and comfort found only in the Eucharist?

That hygiene can exert a useful influence in religion there can be no doubt, and this subject is even now attracting considerable attention, and I hope to be able to present a paper which is now in process of preparation very shortly. In considering a diagnosis of disease we find often very much to exclude, and surely the consideration of the contagion from the Holy Communion may be first and foremost.

February 14, 1892.

Freedom of Medical Practice in Germany.—A correspondent of the *Therapeutic Gazette* says that the German physician is absolutely unprotected by the Government since the introduction of Gewerbefreiheit (*i.e.*, trade-freedom, meaning liberty to carry on any trade or profession whatever). The government prosecutes all those carrying the title of "doctor" or "physician" illegally, but allows every barber or huckster to practise medicine.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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SOME TRUTHS FROM AN ANCIENT SOURCE.

DR. FRANZ HARTMANN has written a book about Paracelsus, from which something can be learned. Dr. Hartmann is, we think, a little too credulous as to the character and attainments of Paracelsus, but it is pleasant to hear good of the dead, especially the four hundred years' dead.

Professor Paracelsus on one occasion remarked of his professional contemporaries as follows: "You have deserted the path of nature and built up an artificial system, which is fit for nothing but to swindle the sick. Your safety is due to the fact that your gibberish is unintelligible to the public, who fancy that it must have a meaning, and the consequence is that no one can come near you without being cheated. Your art does not consist in curing the sick, but in worming yourself into the favor of the rich, in swindling the poor, and in gaining admittance to the kitchens of the noblemen of the country. You live upon imposture, and the aid and abetment of the legal profession enables you to carry on your impostures and to evade punishment by the law. You poison the people and ruin their health."

Such observations would be likely to provoke unkindly feelings toward their author, especially as they had in them a large element of truth. It is not surprising that Paracelsus got a bad name from his contemporaries.

However, we wish rather to present what there was good or suggestive about the Doctor's ideas, rather than defend his character.

Paracelsus says: "There are three kingdoms acting in the constitution of man—an outer, an inner, and an innermost principle: namely, the external physical body; the inner (astral) man, and the innermost centre or God," and medicine correspondingly rests upon four pillars, which are: 1, *Philosophy, i.e.*, a knowledge of physical nature. 2, *Psychology, i.e.*, a knowledge of the powers of the mind. 3, *Alchemy, i.e.*, a knowledge of the divine powers in man, and 4, *The personal virtue* (holiness) *of the physician.*

The greatest and highest of all qualifications which a physician should possess is *Sapientia*, wisdom. Again, "he should be well experienced; for there are many kinds of disease, and they cannot be known without experience and learning. Every art requires experience. You cannot become a good painter, sculptor, or shoemaker by the mere reading of books, much less can you be a good physician without being experienced."

Quite as important it is that "a physician should exercise his art—not for his own sake—but for the sake of the patient; if he practises merely for his own benefit, such a physician resembles a wolf, and is even worse than an ordinary murderer; for while a man may defend himself against a murderous attack made upon him upon the high road, he has no means of defence against the murderer who, under the guise of a physician attacks him."

Surely, these are gospel truths to-day as they were in the sixteenth century.

Here is a pleasant observation for the specialist to take to heart: "He who wants to know man must look upon him as a whole and not as a patched-up piece of work. If he finds a part of the human body diseased, he must look for the causes which produce the disease, and not merely treat the external effects."

In the time of Paracelsus there were physicians who would now be called "dudes." Paracelsus did not like dudes. "I praise," he says, "the spagyric physicians; for they do not go about idling and putting on airs, being dressed in velvets and silks, having golden rings on their fingers and their hands in white gloves; but they are daily and nightly patiently engaged in their work in the fire and seeking their pastime within their own laboratory. They do not talk much or praise their medicines; for they know that the work must praise the master and not the master the work."

To our credit it must be admitted, we are mostly of the "spagyric" kind to-day.

Paracelsus had high ideals if he did not follow them, for he says: "One of the most necessary requirements for a physician is perfect purity and singleness of purpose. He should be free of ambition, vanity, envy, unchastity, pomposity, and self conceit, because these vices are the outcome of ignorance and incompatible with the light of divine wisdom which should illuminate the mind of the true physician. But our practitioners of medicine will not believe me when I say that it is necessary that a physician to be successful should be virtuous; because they imagine that success is due only to learning, and they cannot realize that all true wisdom and power is derived from God."

The ethics of Paracelsus, as may be seen, were of the highest kind. His pathology was very nearly identical with the theosophy, homœopathy, and faith cure of to-day. He was essentially a spiritualist in his views of life and man.

The therapeutics of Paracelsus was also largely suggestive, and based on magnets, charms, and "sympathetic" substances. Salt, sulphur, and mercury were much used because of certain mystical theories entertained about them. An especially favorite tendency was the hypericum perfoliatum, which was said to be "almost a universal medicine."

We cannot now learn anything in practical therapeutics from Paracelsus.

HYDRIATRIC SKEPTICISM.

THERE is an idea gaining ground in this country that the external use of water is an excellent measure for promoting health and treating disease. This idea may become too much the vogue; and, at any rate, it is well to study each side of a question. In a recent discussion on the hygiene of the throat and nose, Dr. Allen, of Iowa, says (the *Post-Graduate*) that the people of his State bathe

but once a year, and yet they have a minimum death rate. Dr. William H. Porter, continuing the same discussion, thought that incessant bathing was in opposition to all physiological laws, and that the skin was too often looked upon as an excretory gland. If the term excretion of heat was used, then the integument and its glands might be considered as an excretory organ. If the term was used in the sense of removing waste products from the system, to call the skin an excretory organ was not only misleading but even quite erroneous. This is clearly shown by reference to the composition of the perspiration, which is said to be composed of 98.88 per cent. of water, 1.2 per cent. solid matter, and only 0.9 per cent. of the latter was represented by organic matter. Again, too much bathing mascerates the epithelial covering of the body and makes it unduly soft, while nature intended that the surface cells of the integument should dry and become a hard, protecting layer. This undue softening, against the dictates of nature, renders the surface layer much more liable to be knocked off and the underlying lymphatic opened, thus favoring the entrance of germs and toxic agents into the system.

Dr. Porter stated that he was firmly convinced that the daily bathing of infants was a very pernicious practice and sapped the vitality of many a child, causing puny, anæmic children, and very frequently resulted in an untimely death.

In regard to the cold plunge, it might also be opposed upon well-founded physiological laws, especially after increased tissue oxidization, for at that time the nervous system is usually in a state of partial exhaustion; to suddenly chill the surface of the body is apt to interrupt the physiological phenomena of the body and excite a condition simulating shock, with all its deteriorating influences. Athletes, according to Dr. Porter, rarely live beyond the age of thirty-five, which seemed to be easily explained by the damaging effects of the cold plunge and the repeated shocks which the body is compelled to resist until the vital powers become permanently undermined.

The above assertions will come with something of a shock to the propagandists of water. Despite some truths regarding the physiology of the skin, we cannot at all accept the views Dr. Porter expresses so forcibly. While the skin is not normally an organ which throws off nitrogenous excreta, yet its activity is essential to the proper work of the kidneys. It is a supplementary excretory gland. Persons with a horny and functionless skin are liable to have renal disease, or some disorder of nutrition like diabetes.

It is better, indeed it is necessary, for man in a state of modern civilization to keep the functions of the skin at their best, and this is done with soap and water and friction.

THE INDICATIONS FOR AND RESULTS OF THE REMOVAL OF THE UTERINE APPENDAGES.

THE *University Medical Magazine* of December, 1891, contains articles on the subject of the remote effects of the removal of the uterine appendages by Dr. Wharton Sinkler and Dr. Charles Carroll Lee. These articles are written in a judicial spirit, and present very fairly the opinions which medical men may and should hold at the present time, regarding the matter in question.

Dr. Sinkler first shows what the ordinary phenomena are that follow removal of the ovaries. These phenomena, as has long been known, resemble in many respects the changes of the climacteric. They consist of flushings and sweatings, which are very common, appear early and last with lessening intensity for two or three years. Disturbance of the heart's action, including rapid heart beat, is frequent; numbness and various parasthesiæ also appear. Patients may gain some flesh but they rarely get fat, contrary to a common belief. They do not necessarily have wasting of the mammæ, nor is there ever a change in voice or growth of coarse hair. The sexual appetite is not much changed for two or three years, but eventually tends to become lessened and abolished. Nervousness, irritability, and mental depression appear to be common, especially in women originally of a neurotic temperament. Insanity occurs undoubtedly in a certain percentage of cases, variously estimated at five or ten.

As to the effect of the removal of the appendages upon neuroses and psychoses, the consensus of opinion seems to be very decidedly to the effect that good is rarely accomplished and harm often done.

Very little, if any, trustworthy evidence is given to show that oöphorectomy is useful in insanity, although in the periodic menstrual form some successes are reported. As periodic insanities are of the psycho degenerative class, one must always expect a recurrence of the disease eventually. There is much evidence to show that, at least in neurotic persons, oöphorectomy tends to produce a condition of mental depression amounting often to melancholia.

In true epilepsy, even of a menstrual type, the operation is useless. In hystero-epilepsy, which many gynecologists seem to think is a form of epilepsy and not a form of hysteria, the removal of the ovaries is not a legitimate procedure. In certain forms of neurasthenia and hysteria minor, associated with decided pelvic trouble, the operation sometimes does good, but the results are slow, and the operation should not be attempted until every other measure has been carefully tried.

Dr. Lee's paper is a most candid and scientific presentation of the results of his own work. In the main his conclusions agree with that of others; but he does not find that removal of the ovaries produces the melancholic condition which has been observed by some.

The conclusions of Dr. Sinkler, which embody the main points given above, may be inserted here:

"The remote effects of removal of the ovaries and tubes upon the general health are, as a rule, to improve nutrition and to better the strength, especially if the operation has been done for diseased ovaries or pus-tubes.

"That excessive gain of flesh is rare, and that change of voice, growth of hair upon the face, and loss of feminine characteristics do not occur.

"That the sexual appetite in women is seldom changed by castration within two or three years after the operation, but after several years it becomes lessened.

"That it is often the case that after this operation patients are more nervous than formerly, and mental disturbances of various forms, insanity, and epilepsy, not infrequently follow it.

"That the influence of the operation is sometimes good upon insanity and epilepsy which are associated with severe dysmenorrhœa or occur periodically at the menstrual epochs; but when the insanity is constant, although it may be aggravated at the monthly periods, removal of the appendages is of no benefit. Hystero epilepsy is seldom permanently cured by the operation. Prolonged after treatment is generally necessary to relieve such cases.

"Local pain is often not relieved by the operation.

"Certain cases of neurasthenia which are associated with dysmenorrhœa, or with structural changes of the ovaries, are cured by the operation; nevertheless, no such case should be subjected to the operation without beforehand having the benefit of prolonged and patient treatment. It is unjustifiable to remove the ovaries and tubes in cases of neurasthenia, hysteria, etc., when these organs are healthy."

We trust that the general practitioner and ambitious gynecologists will both consider carefully the foregoing conclusions. They undoubtedly embody the experience of the profession, gained—at what a cost—during the past ten years.

A NEW STYPTIC.

The styptics ordinarily employed in medicine and surgery act by causing contraction of the blood-vessels, by increasing the coagulability of the blood, or lowering the action of the heart. While styptics fulfil the required conditions fairly well when locally applied, they are very uncertain agents when given internally. So far as increasing the coagulability of the blood is concerned, such substances as lead, gallic acid, and the ferric salts are of little value.

We read with some interest, therefore, the description given by Dr. A. E. Wright, in the *British Medical Journal* of December 19, 1891, of a new styptic which he asserts does undoubtedly increase the coagulability of the blood, both when used externally and internally. Dr. Wright's remedy consists of two substances, viz., the physiological ferment of the blood and certain salts of lime.

The fibrin ferment is obtained from the blood of herbivora, preferably the sheep, in the following way: The blood is received from the vessels into three times its volume of ordinary water. It is then set aside for a few minutes until it commences to gelatinize, when it is stirred in the ordinary manner with a bundle of sticks or of wires. The fibrin that is collected in this manner from the diluted blood is composed of very much finer threads than that prepared from the undiluted blood, and it also presents the advantage of enclosing much fewer blood-corpuscles. The fibrin thus obtained is washed out under a tap, or, better, in several changes of ordinary water until it is practically free from blood-pigment. This process of washing can usually be efficiently completed in the course of some ten minutes, and since the fibrin ferment is soluble in water it is expedient not to overdo the washing. The fibrin is now ready for use, and the fibrin ferment is to be obtained from it by extraction with a moderate quantity of water—approximately some five to ten volumes of water may be used to each portion of fibrin. The extraction is to be continued for some hours (I have usually extracted for twenty-four hours). The filtered extract constitutes fibrin ferment solution. To this is added one per cent. of calcium chloride.

Instead of proceeding immediately to the extraction of the fibrin ferment it is preferable to keep the fibrin ferment for a few days at least under strong alcohol (it may be left there practically indefinitely without loss of its property of yielding fibrin ferment). In such cases the alcohol must naturally be removed by either washing or pressing between filter-paper before proceeding to the extraction. If the extraction is now made with distilled water that has been boiled before using, there is evidently no difficulty in obtaining an aseptic fluid by this method.

The calcium chloride is added because it has been shown that its presence increases the coagulability of the blood. The mixture is to be applied locally. Its hypodermic injection in man is suggested but has not been tried.

Dr. Wright dwells more particularly upon the probable value of the internal use of calcium chloride alone. From experiments on dogs he shows that it apparently increases the coagulability of the blood. He suggests its use, therefore, in internal hemorrhages and in hæmophilia and aneurisms. The dose for a man is not given, but we infer that it must be large, *i.e.*, one or two drachms. It is to be regretted that Dr. Wright did not have the patience to make more practical tests of his styptic substances. They at least seem to be rational and safe.

News of the Week.

The Old New York Hospital.—The original charter granted by King George the Third to the New York Hospital was recently exhibited in court. It is written on four sheets of parchment, now yellow and faded; the seal, attached by a ribbon, resembles half a cracker. The most important history of medicine is covered by the life of this charter.

Mütter Lectureship of the College of Physicians of Philadelphia.—The next course of ten lectures, under the bequest of the late Professor Thomas Dent Mütter, M.D., LL.D., "On Some Point or Points Connected with Surgical Pathology," will be delivered in the winter of 1893–94 before the College of Physicians of Philadelphia. Compensation, $600. The appointment is open to the profession at large. Applications, stating subjects of proposed lectures, must be made before October 15, 1892, to William Hunt, M.D., Chairman of the Committee on the Mütter Museum, Thirteenth and Locust Streets, Philadelphia, Pa.

The National Popular Review is the name of a new illustrated monthly journal for professional and lay readers, devoted to preventive medicine. It will be under the editorial management of Dr. Remondino, of San Diego, and its publication will begin in July next.

Dr. Harry Crumley, of Chattanooga, died of pneumonia in that city on January 25th. Dr. Crumley was born near Columbus, O., in 1859, and had been in practice in Chattanooga for five years.

Yellow Fever in Brazil.—Vessels coming from Brazilian ports continue to bring alarming reports of the yel-

low fever there, and on everyone that arrives several deaths among the crew have taken place during the voyage. Santos is the most afflicted of all the ports, and the disease has now assumed such virulence that even the natives and thoroughly acclimated residents are fleeing from the city. As long as frosty weather continues here there is little to fear, but as hot weather comes on unusual precautions will be needed to protect the city. It is hoped, however, that the epidemic will subside in Santos as the cooler weather approaches, and it is fortunate for us that as it grows hot here it becomes gradually cooler there. We are fortunate, also, in having an excellent quarantine service.

The Cancer Cure.—Dr. Adamkiewitz, of Cracow, who asserted some time ago that he had discovered a cure for cancer, and who has been experimenting in that direction in Vienna, recently presented, before the Vienna Medical Society, a patient whom he claimed to have cured of cancer. His assertion did not meet with a ready acceptance, however, Billroth and some others holding that it was more probable that a mistake in diagnosis had been made than that cancer had been cured. This is not a very scientific basis for scepticism, for it certainly ought to be possible to diagnose a cancerous tumor under the microscope with absolute certainty. The preparation that Adamkiewitz employs is used by injection, and is said to act only on the morbid growth. Its composition is as yet kept secret.

Small-pox is prevailing in severe epidemic form in Morocco, especially in and around Mellah.

High Temperature in Intermittent Fever. — Dr. Stephen Mackenzie reports in the *British Medical Journal* of February 13, 1892, the case of a patient in the London Hospital who was suffering from intermittent fever, whose temperature rose several times to 112° F. and over, the mercury registering on one day as high as 113.8° F.

Medical Education of Women in St. Petersburg. — The municipal authorities of St. Petersburg have voted a yearly grant of $7,500 to be used in promoting the medical education of women in that city.

Dr. Josef Hoffmann, of Vienna, died recently in that city at the age of sixty-eight. For eighteen years, up to 1887, he was director of the General Hospital in Vienna.

Twenty-three Deaths from Chloroform were reported in New South Wales during the six years ending with 1890.

Examinations for Marine Hospital Service.—A board of officers will be convened in Washington, May 2, 1892, for the purpose of examining applicants for admission to the grade of Assistant-Surgeon in the United States Marine Hospital Service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. The examinations are chiefly in writing and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and the natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver. Successful candidates will be numbered according to their attainments on examination and will be commissioned in the same order, as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After four years service, Assistant Surgeons are entitled to examination for promotion to the grade of Passed Assistant Surgeon. Promotion to the grade of Surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant Surgeons receive sixteen hundred dollars; Passed Assistant Surgeons, eighteen hundred dollars, and Surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed. All grades above that of Assistant Surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. For further information or for invitation to appear before the board of examiners, address: Walter Wyman, Supervising Surgeon-General, M. H. S.

A Black List of Physicians.—The Medico-Ethical Association of Manchester, England, proposes to draw up a "black list" of medical practitioners in the neighborhood whose conduct seems objectionable to the members of the Association. All physicians whose mode of practice is, in the opinion of a committee of the Association, unethical and derogatory to the honor, interests, and welfare of the profession, will be considered eligible candidates for the band of the listed. It is to be hoped that the association has a good-sized fund on hand to meet the expenses of libel suits, and to pay occasional damages for defamation of character.

Sir George Edward Paget, Professor of Physic at Cambridge University, died on January 26th, in his eighty-third year. He was an elder brother of Sir James Paget.

Prohibition of Cocaine and Sulphonal.—According to an announcement in the *Medico Chirurgical Review*, of Constantinople, an imperial irade has been issued forbidding the use of cocaine and sulphonal throughout the Turkish dominions.

To Advance Medical Science.—The Boston *Medical and Surgical Journal* states that a bill has been introduced in the Massachusetts House of Representatives calling for the appointment by the Governor of a commission of five citizens, who shall be known as the Commissioners of Medical Science. It shall be their duty to convene at the call of the Governor and to give hearing to any matter brought before them which has to do with

any principle or system of principles looking to the practical advancement of medical science. The Governor and council are authorized by the bill to expend $5,000 for rewards to further the impetus of genius and research in the development of medical science.

A Concours will be held at Rush Medical College, of Chicago, beginning Tuesday evening, March 1st, for the purpose of filling the positions of Lecturer on Anatomy and on Materia Medica and Therapeutics in the Spring Faculty. The concours will consist of twenty-minute lectures, by each of the applicants, before the Faculty, students, and local profession, upon subjects pertaining to their branches, which will be furnished by professors of Anatomy and Materia Medica, and Therapeutics a week before the contest.

Students in German Universities.—The number of students matriculated this year in all the German universities is smaller by 891 than it was last year. A correspondent sends us the figures for each university, according to which we find that Berlin leads, with 5,527 students, Leipzig following with 3,431, and Munich coming third, with 3,292. The total number of students in the twenty-one universities is 27,841.

Prizes of the French Society of Hygiene.—Dr. Péan offers, through the Société Française d'Hygiène, of which he is the President, a prize consisting of one gold and two silver medals for the best essay on "Colonial Hygiene," dealing practically with the principles of hygiene which should guide the European living in tropical countries, as regards his dwelling, mode of life, clothing, food, and labor. Competing essays should be sent, before July 31st of the present year, to No. 30 Rue du Dragon, Paris. The subject for 1893 will be "Hygiene and Physical Education in Adolescence," serving as a supplement to three tracts already published on "Hygiene and Education in Childhood" (from birth to the age of twelve years). The essays should not exceed thirty-two octavo pages in length, and should be handed in before August 1, 1893.

Dr. William T. Lusk, of this city, was elected as honorary fellow of the Obstetrical Society of London at its meeting of February 3, 1892. Others elected at the same meeting were Sir Joseph Lister, Sir William Turner, of Edinburgh, and Dr. Carl S. F. Credé, of Leipsic.

The Health of Florence.—This city has long enjoyed the reputation of being exceedingly unhealthful and of having a very defective water-supply. Yet typhoid fever is not now at least very prevalent, as during the month of January of the present year there were but six deaths in the entire city and commune of Florence. The influenza there during the past winter was also of a very mild type.

The International Medical Congress of 1893.—The profession in Italy is sparing no pains to make this meeting as conspicuous a success as the best of its predecessors. At a recent sitting in Rome an organizing committee was formed, with Dr. Bacelli as its President; Professor Edoardo Maragliano, of Genoa, General Secretary; the Commendatore Professor Pagliani (head of the Public Health Department of Italy), Treasurer; and the Commendatore Signor Ferrando, steward (*economo*). There were also elected by ballot the heads of the fourteen sections over which the work of the Congress is to be distributed —to wit, Anatomy, Physiology, Clinical Medicine, Gynæcology and Obstetrics, General Pathology and Pathological Anatomy, Pharmacology, Surgery and Orthopœdics, Psychiatry and Neuropathology, Ophthalmology, Dermosyphilopathy, Legal Medicine, Hygiene, Laryngology and Otology, Naval and Military Sanitation. The committee is at this moment engaged in constituting local or subcommittees for the whole kingdom, to consist of the leading practitioners of every province. All this procedure is on the lines of the Berlin committee, which will also be imitated in giving to each provincial representative a distinctive badge, to be worn during the Congress. The committee, moreover, is proceeding to the election of foreign committees with a view to secure the presence at the Congress of the leading members of the profession in all parts of the world, so as to make the gathering as truly an international one as possible, worthy of its predecessors and worthy of Rome. The time of meeting has been fixed for September, the month in which the climate of Central Italy is at its best, when in Rome there is no risk whatever from malaria, and when the profession, particularly of Northwestern Europe, can best be spared from home.—*The Lancet.*

Dr. Alexander Lumnitzer, formerly Professor of Surgery at the University of Buda-Pesth, died recently at the age of seventy-one years. He had been an invalid for a number of years.

Dr. Castelo, one of the leading syphilographers in Madrid, has recently died.

Dr. Heinrich Rosenthal, editor of the *Allgemeine Medicinische Central Zeitung*, died of influenza, February 7th, in Berlin, at the age of fifty-eight years.

Secretary of Public Health.—Dr. Starling Loving, of Columbus, O., recently received a letter from Secretary Noble in which the writer expressed his sympathy with the movement looking to the creation of a department of public health whose head shall be a cabinet officer. "Individual effort," the letter said, "has done wonders in detecting the sources of danger to communities, and the discussion of such discoveries has interested every household. But liberal as the medical profession is and has, in our country, proved itself at all times to be, it is not fair or polite for us to leave it unsupported and nationally unrecognized. The international communication of intelligence that would follow the organization of a Bureau of Public Health would not only preserve our own inhabitants from many physical ills, but would greatly serve to strengthen the sympathy between all civilized peoples, who would correspond and co-operate with us. They would feel the same beneficent influences of the system we would realize."

A Death from Hydrophobia occurred recently in England. The victim was a boy of nine years who had been bitten by a rabid dog. He was sent to the Pasteur Institute in Paris and discharged as cured, but the disease developed in a few months and he died despite active treatment.

Reviews and Notices of Books.

RECENT MATERIA MEDICA; NOTES ON THEIR ORIGIN AND THERAPEUTICS. Fourth Edition. By F. HARWOOD LESCHER, F.C.S.; Pereira Medallist; Commander of the Portuguese Order of Christ; Author of "The Elements of Pharmacy;" Auditor of the Pharmaceutical Society of Great Britain. Pp. 115. London: J. & A. Churchill. 1891.

FEW works on materia medica keep stride with the progress in that branch of medicine. New drugs are being constantly put upon the market, and a large proportion of them are of great value. The work in hand, treating as it does solely of these new medicaments, is a necessary supplement to the Pharmacopœia and to the current works on materia medica. The necessary information concerning about four hundred drugs is given, including characteristics, therapeutics, dosage, etc. There is also a very complete therapeutical index.

A MANUAL OF VENEREAL DISEASES. Being an Epitome of the most Improved Treatment. By EVERETT M. CULVER, A.M., M.D., Pathologist and Assistant Surgeon, Manhattan Hospital, New York City; Member of the American Association of Andrology and Syphilology, and late of the Department of Venereal Diseases of the Vanderbilt Clinic; and JAMES R. HAYDEN, M.D., Chief of Clinic Venereal Department of Vanderbilt Clinic, College of Physicians and Surgeons, New York. Pp. 294. Illustrated. Philadelphia: Lea Brothers & Co. 1891.

THE authors do all they profess to do, and do it well, too; that is to give a condensed working knowledge of the three venereal diseases: syphilis, gonorrhœa, and chancroid, avoiding all non practical points, such as history, statistics, unsettled questions, etc. The work is very concise; in fact, some subjects could have been very advantageously elaborated, but, on the whole, all that is necessary for diagnosis and treatment is given. The authors' connection with the Vanderbilt Clinic of New York has given them ample practical experience, and they write originally, giving the treatments which are in vogue at that clinic. These plans of treatment are adopted after long experimentation with all proposed treatments, and they are all excellent, if not the best. The book is a valuable one for the student and busy practitioner.

BURDETT'S HOSPITAL ANNUAL AND YEAR-BOOK OF PHILANTHROPY, 1891–92. Edited by HENRY C. BURDETT. London: *The Hospital* (Limited).

THIS is a book of nearly six hundred pages, edited by one of the world's best authorities on hospitals. It is a guide to the British and colonial hospitals, dispensaries, nursing and convalescent institutions and asylums. Aside from this mass of useful material there are excellent chapters on the proper methods of conducting hospitals, their cost, plans of bookkeeping, etc. The book should be in the hands of all interested in hospitals, not only in Great Britain but in this country as well.

AN INTRODUCTION TO HUMAN PHYSIOLOGY. By AUGUSTUS D. WALLER, M.D., Lecturer on Physiology at St. Mary's Hospital Medical School. London: Longmans, Green, & Co. 1891.

THIS book is remarkable for originality, terseness, and style. It is an admirable text-book, and delightful and instructive reading. The old and the familiar acquire new graces in their present guise. Original drawings and diagrams abound, authorities for statements that denote wide research are everywhere given, and the work embodies the author's own special labors in the department of physiology. The usual elementary knowledge of anatomy, chemistry, and physics is presupposed, and Dr. Waller does not particularly concern himself with these, except to incline to a physical view of his subject, though in no narrow way. To the physician who is still a student, this "Introduction to Human Physiology" is of great value.

THE MODERN TREATMENT OF HIP-DISEASE. By CHARLES F. STILLMAN, M.D. 12mo, pp. 118, with Sixty Illustrations. Physicians' Leisure Library, Series V. Detroit, Mich.: George S. Davis. 1891.

THE volume considers only the mechanical treatment of hip-disease, and is compiled from publications and private letters of those surgeons whose original work is worthy of careful study. As few changes as possible have been made in putting this material into readable form. This little volume, which sells for twenty five cents, will be very welcome to those who lack the time or inclination to delve in theories and statistics, and who find no pleasure in long discussions upon traction and fixation.

ESSENTIALS OF BACTERIOLOGY. By M. V. BALL, M.D.

IT is a practical work for the beginner in bacteriological work, and the author has evidently taken the course of instruction given at the Hygienic Institute in Berlin.

MANUAL OF PHYSICAL DIAGNOSIS, FOR THE USE OF STUDENTS AND PHYSICIANS. By JAMES TYSON, M.D.

A SHORT, concise manual, giving a clear outline of the methods of diagnosing pulmonary and cardiac lesions.

LEPROSY. By GEORGE THIN, M.D. London: Percival & Co. 1891.

WITHIN the last few years professional attention has been awakened to the extensive geographical distribution of leprosy, its redevelopment in countries from which it had almost completely disappeared, and its introduction into new countries which have hitherto enjoyed an immunity.

This revival of interest is shown in the extraordinary number of articles, monographs, and special treatises on leprosy which have appeared, the most recent, and, in some respects, the most valuable of which is the work of Dr. Thin, which forms the subject of this notice.

In this little book of two hundred and eighty pages the author has endeavored to systematize and present in a condensed form the essential facts of our knowledge of this dreadful and mysterious malady. This information has been chiefly collated from the larger classical treatises on leprosy, and with it have been incorporated many new and important facts bearing upon the etiology and contagiousness of the disease which have appeared in recent periodical literature.

The admirable account of the history and geographical distribution of leprosy with which the book opens is most interesting and instructive. The remarkable development and increase of leprosy in Europe, its no less remarkable decline, the comparative immunity of the United States, the conditions which favor its propagation and spread are problems yet unsolved and full of interest.

Our knowledge of the symptomatology, pathology, etiology, and treatment of the disease is summarized in a clear, concise, and complete manner. The chapter on pathology contains a full account of the bacillus lepræ, its microscopical appearance, growth, and other characteristics, its habitat in the tissues and its relation to the pathological changes peculiar to leprosy. The evidence of the contagiousness of the disease is not based solely upon the demonstration of its parasitic nature, but is reinforced by numerous and most convincing proofs. A large number of authentic cases are cited, which show in the most indubitable manner the communicability of the disease to healthy persons who have been brought in contact with lepers. The hereditary hypothesis the author regards as untenable and not to be reconciled with the recognition of a micro-organism as the pathogenetic agent. In discussing the treatment of leprosy the majority of agents and methods which have been employed are mentioned only

to be condemned. Especial prominence is given to the two remedies, gurjun oil and chaulmoogra oil, which at the present time hold the first place in professional favor. The results of all treatment are confessed to be deplorably unsatisfactory.

The work is enriched by three autotype illustrations, representing the tubercular and nerve types of leprosy, and photomicrographs of the bacilli lepræ.

EVIDENCES OF THE COMMUNICABILITY OF CONSUMPTION. By S. A. HERON, M.D. Glasgow.

THE author has studied the bacteriological relationship in tuberculosis and regards everything existing as cause and effect.

THE JOHNS HOPKINS HOSPITAL REPORTS. REPORT OF PATHOLOGY OF AMŒBIC DYSENTERY. By WILLIAM T. COUNCILMAN, M.D., and HENRI A. LOFLEUR, M.D.

A VERY careful and thorough investigation, giving as a cause the amœbœ dysentorie, and recognizing a new disease by the above title.

PTOMAÏNES, LEUCOMAÏNES, AND BACTERIAL PROTEIDS; OR, THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE. By VICTOR C. VAUGHAN, Ph.D., M.D., and FREDERICK S. NOVY, Sc.D., M.D.

THIS little work is a very welcome addition to our present knowledge of the germs and their direct relation to the causation of disease. The question of immunity, also mentioned, is lightly touched upon.

DIE UNTERSUCHUNG DES AUSWURFS AUF TUBERKELBACILLEN. Von DR. EUGEN CZAPLEWSKI.

THIS is a very elaborate and thorough work, giving all the methods employed for staining the tubercle bacillus. Although too lengthy for the average practitioner it is complete in all its details.

THE PATHOLOGY AND TREATMENT OF GLAUCOMA. By PRIESTLEY SMITH, Ophthalmic Surgeon and Clinical Lecturer on Diseases of the Eye, Queen's Hospital, Birmingham. Author of the "Jacksonian Prize-Essay on Glaucoma," Royal College of Surgeons, 1879. With Sixty-four Illustrations by the Author, and twelve Photo zincographs. Pp. 186. London: J. & A. Churchill. 1891.

THIS octavo volume is a *brochure* of the three revised Erasmus Wilson Lectures, which were delivered at the Royal College of Surgeons of England, in March, 1891. It treats of the causes of glaucoma and its attendant symptoms in a masterly way. The word signifying this disease first referred to the color of the pupil, which became green-blue instead of remaining black. But as this green-bluish background of the pupil is a mere concomitant symptom; and as intra-ocular pressure is now recognized as the chief determining feature, if not the cause, of the disease, glaucoma is no longer a suitable name for it. Hardness of the eyeball received only casual notice at the hands of oculists fifty years ago; and it was not until 1830, twenty years before Helmholtz brought forward the ophthalmoscope as a physical instrument, that Mackenzie, still unable to perceive the fundus of the eye, first attempted relief of the tension by scleral puncture. The introduction of iridectomy by von Graefe was the result of his conviction that increased hardness of the eyeball and cupping of the disk were the direct causes of the malady, and these he discovered by aid of the ophthalmoscope. The author ably reviews the attempts at measuring ocular tension, and elaborates his own simple tonometric instrument. This apparatus consists of two glass reservoirs, open at the top, which are hung against an upright. A siphon-tube is connected with each, partly rubber and partly glass, which is carried along a graduated horizontal bar; two rubber tubes descend from the horizontal bar, to which are attached two hollow needles, one of these carries injecting fluid to the anterior chamber, the other to the vitreous chamber of an eye placed on a tripod. The known factors are the contents of each reservoir, the cubical contents of each tube, and the pressure of the fluid, which, when water was used, was 30 c.c., and when mercury, was 25 c.c. Each of these representing about the normal pressure.

By this apparatus, carmine and Prussian blue, or hydrocyanic acid, or persulphate of iron in solution, is injected first into the aqueous, then into the vitreous, then simultaneously into both humors, with the results that the molecular pressure of each humor and the course of the fluids are determined. It may here be noted that the first experimenter upon the eye with similar physical apparatus was Max Kries, about fifteen years ago; his idea being that glaucoma and intra-ocular increase of tension were dependent upon the movability of the spaces at the heel of the iris to act as a filter to the fluid contents of the eyeball.

The causes of glaucoma may be summarized as follows: They are all alike in that they lead to compression of the filtration-angle, and this is the moment when begins the actual glaucoma process. The words of the author are so terse and significant that they are here reproduced: "The escape of fluid is retarded and the intra-ocular pressure rises; the increasing pressure hinders the flow of blood through the choroidal veins, and augments the swelling of the ciliary processes; this, in turn, increases the compression of the filtration-angle. The fluid which still exudes from the turgid ciliary body is albuminous and less diffusible than the normal secretion; it tends to accumulate behind the lens, and this latter, being pressed forward, intensifies the mischief. Thus cause and effect react upon each other in a vicious circle."

Under the head of treatment nothing new is offered. The plan is emphasized of adopting such measures as tend to reduce the increased tension. Eserine is the chief medicinal agent, and atropine is to be avoided, while the value of cocaine is noted on account of its ability to contract the ciliary blood-vessels and diminish the sensibility of the ciliary nerves. Of operative procedures iridectomy must take precedence, while sclerotomy must be regarded as supplemental to it. Von Graefe, though the author of iridectomy for the relief of glaucoma, was unable to explain its *rationale* as we know it to-day.

An appendix is added to the lectures, giving, first, statistics of primary glaucoma in relation to age, sex, and type; and, second, statistics of the weight, volume, and specific gravity of the crystalline lens at different times of life, the perusal of which will afford unusual interest. A short and practical chapter on the methods of preserving and draining ophthalmic specimens closes the *brochure*.

This little work will repay the reader of general medical literature. The genuine and somewhat novel character of the experiments in tonometry; the balance of guarded opinion given to every step of argument; the terse and choice English diction make this book a gem to every student. Author and publishers have made choice selections in illustration.

Artesian Wells.—The drillers engaged in sinking a well for the Natatorium at Fort Worth, Tex., struck a flow of water which excels that of any artesian well known. The flow is 600 gallons per minute, and is as clear as crystal. The well is 1,052 feet deep, with a 10-inch bore at the top, tapering to five inches at the bottom. Fort Worth can boast of the largest flowing well in existence, the largest hitherto known being at Bourne, Lincolnshire, England, which discharges 500,000 gallons daily. At Aire, in the province of Artois, France, from which province is derived the name of artesian wells, there is a well from which the water has continued to flow for more than a century, and at the old Carthusian convent at Lillers there is another which dates back from the twelfth century.—*Sanitary News.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 4, 1892.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Practicable and Impracticable Methods for Preventing the Spread of Phthisis Pulmonalis.—DR. J. WEST ROOSEVELT read the paper, which was a continuation of the discussion of the same subject opened at the previous meeting. While admitting that without the bacillus there could be no tuberculosis, yet it should not be forgotten that not all practicable measures for the prevention of the spread of the disease must have for their aim the destruction of the bacillus. The paper, however, was limited chiefly to a consideration of the practicable and the impracticable measures which were based on the infectious nature of the disease. It seemed to the author that the medical profession, or individual members of that profession, were not altogether exempt from the charge of having suggested some preventive measures which were worse than impracticable; they were absurd and preposterous. In some of the cases the absurdity of the suggestions depended alone upon their utter impracticability; in others, also, upon their being opposed to reason. No measures whatever would prove practical until the public had learned the necessity for their adoption through selfish motives, for it was through selfish motives that people usually were led to give themselves much or little trouble about anything.

It was known that the tubercle bacilli entered the human body usually through the air-passages and the alimentary tract, sometimes through the broken skin; it was known that the soil suitable for their development was the body of warm-blooded animals; it was further known that they could retain their vitality a long time in a warm medium, and could be excited to renewed activity by being transported into the lungs, or other tissues. What was not known, however, was from what the tubercle bacilli originated before they took on their virulent character. It was not improbable that there were countless millions of forms which remained harmless until special conditions arose when they became virulent tubercle bacilli. In other words, it was not impossible but what the tubercle-producing bacilli were descendants of countless millions of perfectly harmless bacteria, and acquired their virulent properties through peculiar conditions. If this were so, who could say that tubercle bacilli might not develop outside the animal body. Yet this did not argue against our destroying, as far as possible, those known to exist and to be disease-producing.

It was useless to advocate any measure which aimed at absolutely preventing the spread of the tubercle bacillus. To accomplish that, it would be necessary that all persons known to be suffering from tuberculosis should be segregated, which would mean in the United States several hundred thousand. It would also mean the temporary segregation of all persons suspected of having tuberculosis, which would run the number up into several millions. It would also necessitate the destruction of all cattle and animals known to be tuberculous, and the disinfection of the carcasses, the disinfection of barns, etc., and these the author seemed to think would be possible. It would also mean that all milk, water, and food should be sterilized, that is, overcooked. Somebody had made the suggestion in good earnest that every house in which a tuberculous patient had lived should be destroyed by fire. Even if all these suggestions were put into practice it would require two or three generations before practical results would follow.

It was bad to suggest disinfecting measures which really did not disinfect, as their application gave the people a false sense of security. Methods had been suggested for disinfection with which, the author thought, common sense had had nothing to do. He so characterized sulphur fumigation, which was still believed in by the laity and received countenance from some physicians. It had proven of some benefit, however, in compelling the people subsequently to thoroughly ventilate their rooms. The best disinfectants were circulation of air and washing with soap and water. It might well be questioned whether the chemical disinfectants had not proven more hurtful than helpful to humanity. It was also a question whether, on the whole, antiseptics as applied in medicine had not done more harm than good. Aseptic methods, even though not possessing all the qualities of antiseptics, did not at least poison patients. Antiseptics, he said, had often had a peculiar effect upon the brain of the men employing them. The portion of the brain affected was especially that which was concerned in the perception of logic.

DR. ROOSEVELT held up to ridicule the idea that a condition of sepsis could be induced by the spray of carbolic acid which should kill the germs floating in the air, also that germs of disease could be destroyed by rectal injections of gas, the inhalation of hot air, or swallowing a sufficient quantity of an antiseptic solution. Nor would much be accomplished by promulgating any scheme which in its main feature dealt with disinfection by the individual.

Passing to the consideration of the most frequent sources of infection, the author said that from inhalation of dried sputum in the air had received attention at the last meeting, and he would only speak of the danger of ingestion of tuberculous meat and milk. The flesh of cows and fowls was often tuberculous, and from this source was one of the greatest dangers of infection. The author expressed the opinion that there was really no such thing as a localized tuberculosis. That where there was apparently a local tuberculosis, shown for instance in enlarged glands, the tissues in any part of the body might contain the tubercle bacilli although in a latent state, and it was unsafe to use the animal for food. It was his opinion that no amount of money would justify letting an animal live, even when suspected of tuberculosis.

The danger of tubercle bacilli getting into the respiratory passages, and especially of reaching the lungs, was a great deal less than the danger of their entering the alimentary canal. It was not seldom that in sweeping rooms with closed doors and windows, it was done in a manner to stir up a great deal of dust laden with the bacilli of tuberculosis, yet it was under such favorable conditions that the cases of known infection by this method had taken place. There was much more likelihood of getting an overdose of the virulent germs through the alimentary tract either by the ingestion of meat, milk, or in children by putting articles of every nature into their mouths, no matter where they may have lain. Whatever plan might be adopted by the Board of Health, by medical societies, etc., for preventing the spread of tuberculous phthisis, none would prove effective without constant reiteration from year to year.

Illogical Logic.—DR. C. E. QUIMBY said he must disagree entirely with Dr. Roosevelt. The paper seemed to be based upon this proposition: that phthisis depended upon tuberculosis; that tuberculosis depended upon a bacillus; that therefore without the bacillus we would have no phthisis; hence, we must kill the bacillus. The speaker regarded that logic as fallacious. It was fallacious in that sight had apparently been lost of the fact that pulmonary tuberculosis did not develop without a lung. Practically, therefore, the one thing which phthisis depended upon was a lung. It seemed to him that Dr. Roosevelt and others had made the mistake of looking at their argument through a pin-hole with the eye close to the hole; if they would only remove the eye a little ways from the hole the argument wouldn't look half so large.

The author himself had shown the practical impossi-

bility of getting rid of all tubercle bacilli, and had not stopped there, but had suggested the possibility even of countless millions outside the animal economy which might under suitable conditions take on a virulent character. The idea that the spread of tuberculosis could be prevented by destruction of all the bacilli of this disease was expressed with about as much thought as the homœopathists manifested when they asserted that a teaspoonful of a thirtieth dilution had curative effects. The speaker had by computation shown that one drop of a fluid diluted to the thirtieth degree would require more water than equalled the earth's bulk. Bacilli had their distinct purpose in the world, and even if it were for the interest of man to destroy them, it was probable the task would not have been accomplished before the destruction of the planet we lived on. But bacilli did not grow in lungs under certain conditions, and the speaker thought it much wiser to bring about these conditions than to attempt to destroy the wicked germs. He believed the temperance people were doing more to prevent the spread of phthisis than doctors, or societies, or health boards would do by trying to destroy bacilli or prevent their distribution. The germs had an easy time when they got to the lungs of one addicted to spirituous liquors. He heartily agreed with Dr. Roosevelt in advocating fresh air and ventilation of homes. One who had the so-called fibroid diathesis was not likely to be affected with tuberculosis, and he recommended the bringing about of this state of the system by manner of living and choice of companions.

Dr. Roosevelt here expressed the view that the remarks of the gentleman were not germane to the subject. It was about as appropriate to speak about eradicating the bacilli of tuberculosis from the face of the earth as to suggest by way of preventing the spread of phthisis that the constitutions of all men be made to take on the fibroid diathesis.

Dr. F. W. Jackson thought that something could be done to limit the spread of pulmonary tuberculosis. The thing of first importance was to impress upon the public that it was an infectious disease. Tenement-house people should be taught that the disease could be conveyed from one person to another, and what were the most likely means of transportation. The same thing could be impressed upon persons seen in private practice. He knew of no drug which was a blood antiseptic. The methods of prevention which he mentioned were disinfection of sputum, inhalation of fresh air, cleanliness, avoidance of tuberculous milk and meat. Laws of hygiene should in general be observed.

Dr. LeFevre said it was only since the cause of pulmonary phthisis in the tubercle bacillus had been recognized that we had received any hope of checking the spread of the disease. In teaching the people that it was contagious or infectious, they should at the same time be taught in just how far, in order that a panic might not be created, and an injury be done both the sick and well. In practical measures, he did not think we could act on the basis of inducing tuberculous patients in any great degree to take steps against sowing the seeds of the disease. On the whole, prevention resolved itself largely into a question of good health and hygiene.

Dr. Agramonte spoke of the much greater number of disease germs to the cubic metre of air in cities than in the country, over the sea, and at high altitudes. The dust of our streets was impregnated with them. This settled in our houses, even where the doors and windows were kept closed. Cleanliness of the streets was imperative if we would prevent phthisis and other diseases, and he suggested that the water from the rivers be used for flushing them, and thus cleaning them without raising a cloud of dust-carrying germs.

The President thought that the most important point brought out in the paper and discussion, aside from points emphasized at the previous meeting, related to the ingestion of tuberculous milk and meat.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE INFLUENZA EPIDEMIC—SPLENIC ANÆMIA—CHANGES IN THE BLOOD IN THE COURSE OF RHEUMATIC ATTACKS—LONDON FOGS—GRESHAM COLLEGE AND THE NEW UNIVERSITY—DR. BROADBENT.

London, February 13, 1892.

The influenza epidemic is now decidedly on the wane, both in London and in most parts of the country. In the metropolis the number of deaths last week was only 314; in the two preceding weeks the deaths were 506 and 436 respectively. The diminution in the mortality which had marked the week before last was therefore more than maintained. About half the deaths were those of persons sixty years of age and upward. The mortality from respiratory diseases generally has also become much less.

At the last meeting of the Medical Society Dr. Walter Carr gave an account of thirty cases of splenic anæmia which had passed under his observation at the Victoria Hospital for Children. The ages of the patients when first seen varied from two months to two and a half years. The patients were usually wasted, and hemorrhages and irregular attacks of pyrexia occurred in the more severe cases. The red blood-corpuscles varied in number from thirty two to seventy-eight per cent. of the normal, but the white corpuscles were only slightly in excess, averaging about one white to one hundred red. Ten of the cases were known to have died, and a necropsy was obtained in seven cases. The enlargement of the spleen seemed to be due to simple hypertrophy, with some increase of fibrous tissue. The liver was not distinctly enlarged in any case, and no marked change was found in any other organ. Dr. Carr remarked that the disease was differentiated from splenic enlargement due to ague by showing no improvement under quinine. In fourteen cases there was evidence of congenital syphilis, but the spleen and the anæmia were not affected by mercury, so that syphilis could only be regarded as a predisposing cause. Rickets was present in twenty-seven cases, but the author did not regard it as the real cause of the disease because, first, in most rickety children the spleen was not enlarged; second, there was no connexion between the severity of the rickets and the size of the spleen or the degree of anæmia; and third, in some cases there were no signs of rickets. He considered that splenic anæmia must be due to a separate cachexia, to which syphilis and rickets predisposed, but which required some further definite exciting cause for its development; this theory would account for the clinical and pathological similarities observed in all the cases, and also for the absence of improvement under the treatment usually beneficial for rickets and syphilis. Mercury, arsenic, and quinine appeared to be useless as remedies, but improvement sometimes followed the exhibition of large and increasing doses of iron.

Dr. Leslie Ogilvie said he was convinced that the splenic enlargement was associated with rickets. Dr. Colcott Fox evidently leaned to the same opinion. He remarked that the ages of sixty-three children with enlarged spleens whom he had observed ranged from four months to two and a half years—a significant fact, as that was the epoch of the bone changes in rickets. He regarded syphilis as the great factor in causing enlargement of the spleen with anæmia—possibly by predisposing to rickets. The President (Dr. Douglas Powell) suggested that the term "anæmia with splenic enlargement" would better describe the cases.

At the Medical and Chirurgical Society on Tuesday evening, Dr. A. E. Garrod (a son of Sir Alfred Garrod) read a paper on "The Changes in the Blood in the Course of Rheumatic Attacks." The paper was based

upon about eighty examinations of the blood of twenty rheumatic patients. As standards of comparison the author had made use of observations on ten healthy persons and ten chlorotic patients as standards for comparison. He found that an attack of rheumatism was always attended with a considerable and rapid diminution of the number of red corpuscles, which diminution commenced very early in the attack. The corpuscles were rapidly replaced when convalescence set in, but any fresh rheumatic manifestation was attended by a fresh fall, and in this way the phenomena of loss and repair might be repeated several times in the course of an attack. In prolonged attacks there was not a progressive diminution of the number of red corpuscles, but the numbers remained at or about an even low level. There was no real connection between the corpuscular variations and the temperature curve—the blood-changes being equally marked in afebrile cases. The author considered that the corpuscular variations afforded a far more delicate index than the temperature chart did of the activity of the rheumatic process. The blood-changes might be equally conspicuous whatever the nature of the rheumatic manifestation which they accompanied—whether arthritis, pericarditis, erythema, or pleurisy; they were not due to salicylic treatment, as they were equally well marked when no salicylate was given. A loss of corpuscles was sometimes observed when the patient first left his bed, but this was not a constant phenomenon. The variations of the percentage of hæmoglobin frequently followed those of the corpuscles—the worth of the individual corpuscle (obtained by dividing the percentage of hæmoglobin by the percentage of corpuscles) remaining constant. A tendency to falling worth was manifested in many cases. When the worth fell during the acute attack the diminution was usually only temporary, but a progressive fall might set in during convalescence and produce a condition of more or less chronic anæmia. Any conspicuous diminution of worth between the first and last observations was, nevertheless, exceptional. In a few cases the hæmoglobin percentage rose rapidly for a time, while the percentage of red corpuscles remained constant or was falling. Dr. MacMunn had pointed out that uro-hæmatoporphyrin was usually present in the urine in some quantity during rheumatic attacks. This pigment was one of the products of the action of reducing agents upon hæmatin, and it thus seemed probable that some connection might be traced between its appearance in the urine and the changes in the blood. To determine this question the blood and urine were both examined in eight cases, but it was found that the appearance in the urine, or disappearance therefrom, of urohæmatoporphyrin did not bear any recognizable relation to the corpuscular variations as to number and worth. Patients in whose urine the pigment was found throughout their stay in hospital, left the hospital with no deterioration of blood. Dr. Garrod hence concluded that—assuming it to be derived directly from blood pigment—the appearance of uro-hæmatoporphyrin in the urine did not indicate excessive destruction of hæmoglobin, but rather a perversion of the ordinary processes for the elimination of the effete blood pigment. The anæmia of rheumatism was of two kinds—an acute oligocythæmia, which was rapidly recovered from, and a more chronic condition of pseudo chlorosis, which might outlast the attack, and which was only observed in a few cases. The first variety called for no special treatment, but iron was often of great value in combating the second and more lasting form of anæmia.

Dr. Willcocks said the blood-changes in acute rheumatism were very similar to those which occurred in other forms of fever, such as typhoid, pneumonia, etc. The red corpuscles became fewer and less rich in hæmoglobin. A few doses of iron could alter considerably the amount of hæmoglobin in the corpuscles.

Dr. Sturges referred to the anæmia accompanying acute rheumatism, and mentioned the cases of two children lately under his care. Both children were extremely anæmic. In one case there had been hemorrhage, but in the other there was no apparent cause for the anæmia. In both, however, pericarditis and endocarditis set in. He asked if, in these children, the anæmia might be considered as evidence of a rheumatic condition.

Dr. Ogier Ward mentioned the case of a child, seven years of age, with rheumatism, whose urine was dark-colored and of high specific gravity (1 030). As the child improved the specific gravity of the urine lessened, and Dr. Ward suggested that the specific gravity of the urine might assist in diagnosis.

In reply to a question in the House of Lords the Prime Minister has declined to assent to issue a Royal Commission to inquire into the London fogs, but has intimated his willingness to support the appointment of a Committee of the House.

The latest proposal with regard to the new university for London is that it should be termed the Gresham University. Gresham College in the city of London would be then incorporated with the university. The college has an ancient endowment which could be made available for the support of the new institution.

Dr. Broadbent has been appointed one of the Physicians in Ordinary to the Prince of Wales.

HOT SALINE INFUSION, ARTERIAL, WITHOUT CUTTING.

To the Editor of the Medical Record.

Sir: In your issue of February 6th is a letter by Dr. Julius Rosenberg which would seem to call for some reply at my hands. It is evidently my misfortune not to write English that is clear enough for this gentleman's comprehension. He begins as follows: "In the Medical Record, vol. xli., No. 1, appeared an article by Dr. R. H. M. Dawbarn on the surgical treatment of hemorrhage, in the course of which is advocated the infusion 0.6 per cent. saline solution at or above the temperature of the blood. Dr. Dawbarn also cites a case in which the value of this measure has been successfully demonstrated. This mode of treatment is not new, because experiments and cases have been reported since 1879."

I have nowhere made the ridiculous claim of novelty for saline infusion at, or slightly above, the normal temperature, performed by the customary technique of a cutting operation, with insertion of a cannula into the severed artery or vein.

Dr. Rosenberg sets up a straw man and then proceeds to demolish him. In this easy task he quotes a number of writers in 1879, '81, '82, who are quite devoid of present interest, their work being now well known to us all, old and musty. I did not mention them in my article because this was not meant for a repository of ancient physiological experiments. However, as a matter of thoroughness in reply, I shall presently allude to every author named by Dr. Rosenberg, so far as his writing bears upon the question under discussion.

Such small claim to originality of device as I did make was as follows:

"Now for the new and simple technique to which I alluded a few minutes ago. It involves no cutting whatever, no searching for a collapsed vein, no freshened knowledge of anatomy, no tying in of a cannula, no cannula at all, in fact."

My method is the introduction, *without cutting*, of an ordinary hypodermatic needle into the very largest artery accessible (the common femoral, just below Poupart's ligament, where its calibre is enough to carry a lead-pencil easily), and forcing in some appropriate salt-solution, *extremely hot*, either by gravity or by the Davidson syringe.

It is wiser to employ the femoral than some lesser artery. In the latter case cutting is inevitable, as it is practically impossible to enter, say, the radial or ulnar with a needle, unless the artery is first laid bare. I have

tried it on the cadaver and find what I have said to be true. Then, too, if even so relatively unimportant an artery as one of these be divided, and a cannula tied in, there is risk of gangrene, as evidenced by Kümmel's case in which this resulted.

The theoretical objection that the hypodermatic needle may do serious damage to the femoral artery, I have met both by a successful case (published) and by the report upon Dr. Wyeth's patient, who bore Macewen's method of needling the diseased (aneurismal) wall of a still greater vessel; not one, but thirty-nine needles entering, at different times, each remaining in place twelve hours; and with distinct benefit noted a year later. It would seem a fair inference, therefore, that we need not fear a single needle puncture, in a sound vessel for a single half-hour.

For a surgeon there are no objections to the cutting operation, with use of cannula, etc., in, for instance, the median-basilic vein. But we may as well face the fact that there are many, very many, family practitioners who will, as heretofore, try everything else, and fail, rather than use a scalpel and attempt what they do not regard as an easy thing to do. The rarity of recorded cases of saline infusion in general practice proves this, if proof were needed, in a matter of such common knowledge.

To these gentlemen the entire simplicity of the device I have suggested will, I believe, commend itself, and hence be the means of saving many lives.

Of course, as I have elsewhere said, if the patient's circulation be not in an extremely bad way, the injection of salt-solution through the hypodermatic needle into the subcutaneous cellular tissue, here and there, would seem best of all. But when almost moribund, the needle in the artery leaves no chance for non-absorption of the injected fluid and is consequently wiser.

"To return to our mutton." Dr. Rosenberg mentions *Schwarz*, *Kronecker*, and *Sauder's* experiments. These gentlemen only reported work on the lower animals, and, of course, here tied in their cannulæ. *Ott* goes into full details in stating this same fact as to his own work.

In quoting *Kümmel's* two cases Dr. Rosenberg announces that this writer used a glass funnel, rubber tubing, and a large *hypodermatic needle;* and Dr. Rosenberg carefully avoids mentioning the cutting operation done in each instance. Upon looking up Kümmel's original paper, it is found that he specifically states that the artery is laid bare, tied, and a *cannula* (Kanüle) inserted.

Comment on this kind of criticism would seem needless.

By *Bishop* I presume Dr. Rosenberg means Bischoff, whose work is in the same line with the preceding.

Küstner, also, in his reported case out of Schulze's clinic, cut down, tied the radial artery, and after opening this vessel fastened in it a cannula for injection.

Dr. *Münchmeier's* paper is a very interesting and comparatively recent one, and I was glad to know, through Dr. Rosenberg, where to find it. It deals exclusively with subcutaneous saline injection (into connective tissues) and therefore does not touch upon this question at issue.

In no case mentioned by my ingenuous critic, nor any so far found by me, have I noted the use of the method heading this letter. I shall be glad to report it, if I read of such a case, and to give due credit therefor.

Regarding the question of the heat of the fluid injected, the hottest temperature mentioned by Dr. Rosenberg is 40° C. (104° F.). This, of course, is no exemplification of the principle which I have urged; which is the use of water as hot as the hand can possibly tolerate, as a stimulant to the heart and a means of restoring the vascular tone, the loss of which is so perilous a factor both in shock and hemorrhage. Let me finish by quoting the final sentence of my argument upon this matter:

"*A priori*, it would seem safe to employ this salt water as hot as the hand can possibly bear, which is about 49° C. (120° F.); since globulin coagulates only at 70° C. (158° F.), and serum-albumin at 72° C. (162° F.); or about forty degrees Fahrenheit hotter than the hand can support."

Very respectfully,

ROBERT H. M. DAWBARN.

345 WEST FIFTY-SIXTH STREET, NEW YORK, February 17, 1892.

THE NON-CONTAGIOUSNESS OF LEPROSY.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: In your issue of a week ago you did me the honor to notice my article, read recently before the County Medical Association, "On the Non-contagiousness of Leprosy," and in the last issue appears a letter from Dr. Allen, relating to the subject.

As there appears to be some misunderstanding with reference to my position in the matter, I beg leave to say a few words concerning the subject in question.

It was unfortunate that, owing to press of work, the article was not made ready for the press, so that those who wished to comment might see the article itself, rather than any notices of the same. It is, however, already in type, and is expected to appear in the next number of the *International Medical Journal*, of Philadelphia, when I hope the criticisms, if need be, will be based upon a careful study of the article itself.

I have never taken an ultra position in regard to the subject of the non-contagiousness of leprosy, but having studied the matter for many years, and having observed a very considerable number of cases in this country and elsewhere, and also having had some experience regarding the personal fear and dread of the disease in connection with the management of the New York Skin and Cancer Hospital, I felt that it was but right to present the non-contagious aspect of leprosy, in its strongest form, in order to allay the unnecessary excitement which some rather rash individuals have seen best to stir up of late years.

Will you allow me herewith to present the conclusions with which I closed my paper, in order that your readers may see exactly the position I did take?

"In conclusion, I may briefly state the results of our study, as follows:

"1. There is no warrant for the popular terror surrounding the name of 'leprosy' as a disease.

"2. The disease is not contagious in the ordinary acceptance of the term, as applied to such diseases as smallpox, scarlatina, or syphilis.

"3. Leprosy is probably due to the presence of a bacillus.

"4. There is strong reason to suspect that it may first be introduced into the system by the way of food, and fish is the most likely of all substances to furnish and convey the poison.

"5. There is evidence that when acquired, the disease may, under favorable conditions, be transferred from one person to another.

"5. Heredity probably accounts for a share of the cases, but the disease is not necessarily transmitted by inheritance.

"7. Inoculation with leprous matter may be the means of conveying the disease, when all the conditions are favorable.

"8. There are far more and greater reasons for the restriction of syphilis and tuberculosis by isolation and segregation than for the necessity of these regulations in regard to leprosy."

In my paper I have elaborated, to some extent, the arguments in favor of the fish hypothesis of the cause of leprosy, and feel that this matter has, as yet, by no means received the serious attention which it deserves.

I must still adhere to my view, after very considerable study of the matter, that the disease has not been spreading by direct contact with the leprous patients, although, all must acknowledge that it is highly probable that the disease is extended by the transference, in some way or

other, of the bacillus to those non-infected. But, in view of the very great length of the period of incubation, I hold that it is not proven that any number of individuals have ever acquired the disease from direct contact with others affected, or that it has ever been traced, in any proportion of cases worth mentioning, directly from one person to another.

In view of the serious ravages made by syphilis and tuberculosis in this community and elsewhere, I feel that I am more than justified in making my last conclusion, that these should far rather be restrained than leprosy.

I remain, Yours very truly,

L. DUNCAN BULKLEY, M.D.,

4 EAST THIRTY-SEVENTH STREET, NEW YORK.
February 15, 1892.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of January 23d appears a notice and short abstract of a paper read before the New York County Medical Association, on the above subject, by Dr. L. Duncan Bulkley, and his conclusions are as follows: "1, That there was no warrant for the popular theory that leprosy was a contagious disease; 2, the disease was not contagious in the ordinary acceptation of the term, or as that word was applied to small-pox, syphilis, etc.; 3, it was probably due to the presence of a bacillus; 4, there were strong reasons to suspect that the bacillus might be introduced into the system by way of food, especially drink; 5, there was evidence that the disease might, under favorable conditions, be transferred from one person to another; 6, heredity probably accounted for a share of the cases; 7, there was no necessity for segregation; 8, there was far more reason for placing restrictions about patients with syphilis and tuberculosis than about those suffering from leprosy."

Naturally one hesitates to inflict upon your readers one's views, and no less so in contravention of Dr. Bulkley, yet to much contained in these conclusions I must dissent. I do this from a feeling of having good company in my beliefs as well as indulging the hope that some good always comes from a little free discussion and criticism.

In the first place, what do we mean by the word contagion? In authoritative dictionaries one finds various and circumlocutory definitions, this word and infection interchanged and mixed, and with explanations the longer they grow so much the thicker the haze. However, it is finally made out that the common acceptation is that property or quality by which diseases are transmitted or spread without actual contact or touch. Bitter controversy and dissension have always marked the use of this word; even now learned professors seem to be not quite sure of their ground when coming to it in their annual lectures before their classes; and for centuries long discussions and classic wranglings have gone on over its meaning. Dr. Bulkley's use of contagion, as applied above, must have for many minds more than one meaning—at least I am so unhappily placed. It is possible that as a profession we are doomed to eternal ridicule for our inexactness and inaccuracies, and may continue to the end of time with opinions as diverse as may be heard at almost every trial in court where "expert testimony" has full play for its peculiar inconsistencies; nevertheless, we must continue the endeavor of accommodating our opinions as best we may.

Dr. Bulkley says there is no warrant for the popular theory that leprosy is a contagious disease. In my opinion and experience there is such warrant, and I can name some most able and conservative men who have extensively handled this disease, and who believe in its contagiousness in the ordinary meaning of that term. Thin and Manson are among this number, and the latter's experience in the Far East has been rarely equalled by any European. Dr. Bulkley says it is not contagious in the acceptation as applied to small-pox, syphilis, etc. Now many or most of us believe that there is a vast difference in the quality and manner of contagion or infection, or whatever we may call it, by which these diseases are propagated. Small-pox may be communicated at some distance, I have seen it stated a quarter of a mile; I have heard of syphilis being caught in mysterious ways, but still strict propinquity seems essential in the experience of most medical men. Here is an elastic application of the word contagion. The third and fourth conclusions indicate something more tangible, and to which all must agree; sixth, heredity probably does account in a measure for a share of the cases, but it is not of more than minimum value, and vanishes in the absence of the essential cause—the micro-organism. Heredity accounts for the transmission of similar tissues and cell tendencies, but not for acquired characters or disease itself, in these post-Lamarckian times. The seventh and eighth conclusions are true enough, though the former has seemed necessary among degraded, ignorant peoples and aborigines by some very able and enlightened practitioners having to do with its management, whatever their opinions regarding the points in discussion.

If medicine has to any extent advanced in the world's estimation in the last quarter of a century, and this is conceded us, pathology in its larger sense has been the chief lever. Now to the mind of the student of pathology and bacteriology the use of the word contagion, so often seen, and as in some of the above conclusions, is like the hazy or vague impression many moderns have in mind when asked to define the genus "a pious man." It is a convenient mantle for inaccuracy, and in the case of the latter the mind only indefinitely has, or forms, a vague perception. Nobody denies, however, that there are contagions, or that "pious men" exist as well. According to our greatest pathologist, Burdon Sanderson, quite recently, "contagion is in its essence microphytic." Diseases are believed to be entities, and for the most part are extensions of the same producing elements—living organisms—at least the great mortality-causing ones are, and this argues a transferrence from subject to subject, and degrees of the process depending on many and complex conditions. That many escape is well known, and is no counter-argument; soils do not grow all seeds similarly, and conditions influencing their evolution on both hands constantly vary. If scarlatina is taken from long-put-away toys, hidden in garret nooks for years, we feel warranted in believing that the microphytic elements of the disease remained on those toys all that time; such an instance is known to me. Analogous phenomena are seen every day in the laboratory; no life manifestations occur unless allowed to do so, or the culture conditions are adequate. If syphilis requires contact of tissues or secretions of tissues to reproduce itself, and scarlatina and small-pox not such immediate or close contact, is it not an evidence of dissimilarity in the physical properties of their microphytic causes, such as gravity, form, and variations of vital phenomena, and persistence either in grown individuals or their spores? Hence varying possibilities of transferrence in the atmosphere, by food or drink, or by means of the common intercourse among families and communities, from breathing a common air to actual contact of persons and their secretions. Microbes do not take to themselves wings, but they do lodge on all things, on surfaces, and on dust particles, and there is abundant opportunity for such transferrence among human beings as the history of most diseases indicates without going into details. Because a disease is in its nature long continued or chronic, such as tuberculosis and leprosy, or even as syphilis; and though communicability is of a more insidious character, nevertheless this property, though not so striking in its effect as observed with the spread of the exanthems, still exists, and the word contagion ill defines our appreciation of the probable conditions. There is an increasing number of physicians who believe in the spread of typhoid by means of the atmosphere, yet who can doubt that were

this our general belief typhoid would be a "contagious disease" in our nomenclature?

I have seen leprosy in segregated communities, singly in cities, and in several countries, and I believe in its "contagiousness," that it is kept alive by the intercourse of the sick and the well, and that the power of its transferrence or communicability varies. It is transmitted by contact, as is easily observed in the Far East, where women resort to gatherings to allure men, believing that they will thus get rid of it. I have seen a young European woman, after a few years spent in India in mission work, with the beginning of ulnar anæsthesia. She was engaged in her work among lepers, but not many of them. There was association with lepers occasionally, but not close contact, to her knowledge. I have yet to see perfect segregation carried out anywhere, or isolation, and I have seen villages of as many as four hundred lepers in Middle China. It became possible for me, some years ago, in Egypt, to procure a tubercular nodule from a leper's hand, and within forty-eight hours the sections were observed under the microscope, and there is in my mind a very vivid impression of the disease cause and the possibilities of "contagion" or extension from such an individual among his associations, from the swarms of characteristic bacilli I then saw. We read of miasms, fish diet, old syphilis, and other causes, but the disease is not found without the organism. Marshes may be the original cause of the microbe in some lands, but it is unproven.

Pathology has recently taken syphilis back long anterior to our era, by the characteristic nodes on the dug-up bones of pre-Columbian aborigines. So, probably, this disease—leprosy—goes back with the rest of living things to its natural place. Since human tissues were formed, the elements of cell disintegration and protoplasmic variation were likewise in existence. There is no fish used in parts of the world where one finds leprosy villages. Syphilis is universal, but leprosy is not; the former is curable, the latter is not. We know that a characteristic microbe exists in leprosy, and that in the presence and under the influence of its products the cells composing the tissues cease to be able to preserve their normal functions and integrity; that this organism is not found otherwise; and that in most cases the thread of connection can be traced to another.

It matters little how the laws are made to discriminate in theory, the carrying of them out is wholly another matter and mostly an impossibility, but avoidance of those ill must sooner or later be done in communities, if this disease—among others—is to be abated. The active syphilitics and the tuberculous are now isolated in great part, or should be, and the greater care looking to isolation of leprosy is still more imperative, because of its insidious and longer incubation, its greater persistence, and incurability. I would refer Dr. Bulkley to Dr. Thin's book on leprosy, and to an article on its contagiousness, with an account of the origin and spread of the disease at Perean and Spain, in recent years, in *The Lancet* of January 16th, if he has not already seen it.

Respectfully yours,

C. A. SIEGFRIED,
Surgeon U. S. Navy.

NEWPORT, R. I., February 20, 1892.

A Precaution to be Observed in Douching the Peritoneal Cavity.—Dr. Alexander Duke, in a note to the *Lancet*, says that he has noticed that water just poured into the receptacle out of a boiling kettle will, when allowed to flow from the end of a rubber tube, be found almost cold for the first ten seconds or so. This is due to abstraction of heat by the six feet or more of tubing. It is a wise precaution therefore to allow the water to flow a while through the tube before using it in douching parts where a slight chill might be very serious, as in the abdominal cavity after laparotomy.

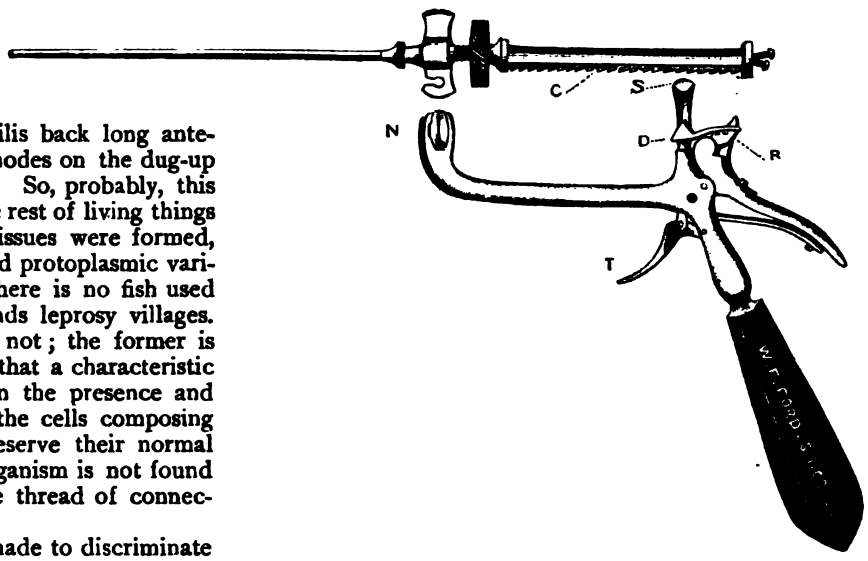
New Instruments.

A MODIFIED NASAL ÉCRASEUR.

BY WILLIAM C. JARVIS, M.D.,

PROFESSOR OF LARYNGOLOGY AND DISEASES OF THE NOSE AND THROAT IN THE NEW YORK UNIVERSITY MEDICAL COLLEGE.

THE device shown in the illustration is intended to be viewed, more as a mechanical adaptation or expansion than a change in the character of my écraseur. Since the presentation of this instrument to the notice of the medical profession, with the all-important No. 5 piano wire, upon which the utility of this and similar devices is dependent, I have endeavored, by the invention of accessory apparatus, to increase its applicability and efficiency to meet the various exigencies of intra nasal surgery. Many modifications have not been recorded by me for the reason that the mechanical alterations were not deemed sufficiently radical to merit especial mention. The improvement exhibited in the figure is believed to possess some intrinsic merit, and likewise successfully meets an objection, or perhaps, more properly speaking, a preference, which has been persistently urged against the universality of my écraseur's usefulness, namely, its



presence as an obstruction in the direct line of the operator's field of vision. This result is accomplished by the employment of an adjustable handle, exhibited drawn half-size in the figure, which when fastened to the écraseur substitutes the pistol for the pen-handle grip. The only change made in the original pattern of the écraseur, consists in the detachment of a toothed metallic strip to the movable cannula *C*, and the cutting of a slot in the finger-piece. In adjusting the écraseur to the handle, the cannula is merely slipped beneath the saddle *S*, and firmly fixed by the screw-nut *N*; in this position the ratchet *R* is enabled to act upon the cogged teeth *C* in conjunction with the detent *D*. It is obvious that pressure upon the lever supporting the ratchet must cause the cannula to spring forward, thereby contracting the wire loop, each successive advance being sustained by means of the detent. To remove the écraseur the binding nut is unscrewed and pressure exercised upon the trigger *T*, the result being a severance of the connection between the detent and the cogged teeth. Mindful of the readiness with which binding screws become detached and lost, the nut has been made inseparable. The changes impressed upon the original pattern of my écraseur to attain these mechanical effects, are so slight that Mr. W. F. Ford, the manufacturer of the instrument, informs me the necessary alterations can be effected with any of the old instruments in use, thus leaving only the adjustable handle to be procured anew. This device, it is obvious, is particularly applicable for the removal of gelatinous polypi, the rapid

excision of which, by means of the cold wire, never results in a significant hemorrhage. Experienced operators need hardly be reminded of the danger of utilizing this rapid ratchet motion for the removal of vascular neoplasms. The excision of nasal angiomata, for instance, or of even posterior turbinated hypertrophies, must naturally prove dangerous, by reason of the necessity of employing slow traction, in these cases, to prevent profuse hemorrhage. Should a vascular growth be included within the wire-loop, the operator may employ rapid traction until the resistance indicates a degree of constriction bordering upon incision, and then slowly complete the procedure by means of the milled nut with the adjustable handle attached to, or released from, the écraseur. It may be well to add a note of warning for the benefit of the uninitiated, with regard to the danger of confounding posterior turbinated hypertrophies with deep-seated gelatinous polypi, at least one instance being fresh in memory, in which a certain amount of unjust criticism, following in the wake of a severe nasal hemorrhage, was clearly due to this confusion. For further operative details, the reader is respectfully referred to articles, by myself and others, in the columns of the MEDICAL RECORD, and to Drs. Bosworth and Robinson's classical contributions on the naso-pharynx, published by William Wood & Co.

In concluding, I will add that a penchant, observed to exist among some operators for snares similar to Wright's, Mackenzie's, Allen's, Butlin's, and others, is believed to have been fully satisfied by the écraseur just described.

142 MADISON AVENUE.

THE OPHTHALMOLOGIST'S ANTISEPTIC CAP.[1]

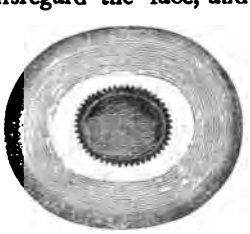
BY GEORGE E. ABBOTT, M.D.,

NEW YORK.

IN these days of sepsis, a-sepsis, and anti-sepsis, it is an interesting study to observe the non-observance, the partial observance, and the rigid observance of all those rules and procedures which science has elaborated and demonstrated as necessary to secure those results, which were formerly almost impossible and decided exceptions, but which are now the rule.

The old question of surprise, "How did you get such and such a result?" has become, "Why did you not get such and such a result?" It is your business to get it.

I cannot think that the difference between the thorough preparation of the gynecologist, who scrupulously prepares his surgical field and carefully surrounds it with an environment of thoroughly aseptic towels, etc., and the apparent thoughtless preparation of many ophthalmologists, who wash the eyelids but disregard the face, and especially the hair, ears, etc., and seem to care little for the environment, is due to a non-belief on the part of the latter in anti- and a-sepsis; but rather to the mechanical difficulties of properly guarding the head.



Being somewhat interested in the surgery of the face, I have studied into the ways and means of securing an aseptic environment for the head during surgical operations upon the face.

Mr. Williams, of the Williams Rubber Co., of this city, has kindly constructed for me these rubber caps which I now show to you. They may be had of him or at any of the instrument stores. They may be scrubbed inside and out. They are elastic, and will fit any head, male or female. They should be carried over the hair to its margin, all around, and may cover one or both ears; thus rendering all sepsis from hair and ears impossible, without the danger (especially to ladies) of catching cold after washing the hair. One may also be drawn over the beard if necessary.

[1] Presented to the Medical Society of the County of New York.

This rubber protection has surgical applications to other parts of the patient and to the operator as well, who may wear one himself while bending over the surgical wound. I believe this rubber cap will prove an important factor in reducing the percentages of those cases which "have not done quite well," or where "almost all

Cap and Sheet of Rubber Tissue.

the wound united by first intention," or when "there was just a little pus around one of the sutures," etc.

"The method in my madness" in calling this "the ophthalmologist's antiseptic cap" is, of course, simply to have it properly indexed so as to call their attention to it. If it shall prove to be of service to the ophthalmologists, I shall be glad, as I am indebted to some of them for many acts of kindness.

19 EAST SIXTY-FIRST STREET.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 27, 1892.

	Cases.	Deaths.
Typhus fever	22	4
Typhoid fever	11	12
Scarlet fever	230	29
Cerebro-spinal meningitis	1	2
Measles	295	10
Diphtheria	133	31
Small-pox	2	3
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Gallacetophenon is the name of a new remedy which Neucki has recently introduced, and which is said to be very efficacious in the treatment of psoriasis and parasitic skin diseases. It is said to be quite as active as pyrogallol, and does not have the disadvantage of staining.

Chancre of the Tongue is rare, according to Fournier, although the most frequent of extra-genital chancres after that of the lips. It is usually situated on the anterior portion of the organ, and is almost always single. Two initial forms are found, the erosive and the ulcerating, the former being much more frequent than the latter.

Secondary Syphilides of the mouth, Fournier says, form two groups, the moist syphilides and the dry syphilides. The first constitute mucous patches with their well-known various forms; the second, less well known, have received different names, such as syphilitic psoriasis, smooth plaques of the tongue, or ring-worm-like syphilides.

The Mechanical Treatment of Constipation. — Dr. Feilchenfeld has employed in chronic constipation of women after childbirth, in hæmorrhoids, and in heart and kidney affections, the plan of placing upon the abdomen

a shot-bag weighing three or four pounds, and leaving it often over night, if necessary, but usually finds that after an hour's time a regular passage is secured.—*Centralb. für Gynäkologie*, No. 50.

Treatment of Chlorosis.—Dr. Váczi recommends for chronic chlorosis three Blaud pills daily, and ten drops of the following:

℞. Tinct. strophanthi,
Aq. amygd. amad.....āā 3 ij.
—*Centralb. für Gynäkologie*, No. 50.

Hydrastis in Obstetrics.—Dr. Botti has found hydrastic canadensis, in daily dose of from one to two hundred drops, an excellent hæmostatic in the uterine hemorrhage of childbirth, as well as in ante- and post-partum bleeding. He regards hydrastis as much superior to the secale preparations, and free from their disagreeable effects.—*Centralb. für Gynäkologie*, No. 50

Antiseptic Mouth-wash (Muller).

℞. Acid thymic.....	0.25.
Acid benzoic.....	3.
Tinct. eucalypti.....	15.
Spt. vini rect.....	100.
Essence. menth. pip.....	0 75.

M. S. Drop enough into a glass of water to cause turbidity, and rinse the mouth morning and night.

Perkinism.—Not far from a century ago the civilized world was ringing with the praises of "Perkinism." The story is old and oft-repeated, but will bear a brief retrospect. Elisha Perkins, then living in Connecticut, had introduced to public notice his "tractors" or "pullers-out-of-disease," with which he cured many cases of rheumatism, gout, and disorders of the nervous system, by the application of these tractors to the body. The apparatus consisted of two pieces of metal (brass and steel) highly polished, to appear like gold and silver. They were made in a small village near New Haven at a cost of twelve and a half cents a pair, and were sold by Perkins for twenty-five dollars. Perkinism spread rapidly and soon made its appearance in England, where a Perkinian Institute was founded, and reports of five thousand cases were published. Certificates were obtained from the highest sources, and Perkins soon found himself the possessor of a fortune. The Archbishop of Canterbury was implored to compose a new prayer, to be used in all the churches, that no evil powers might be allowed to impede the magic workings of the inestimable gift of Perkins. The exposure of the Perkins fraud was the work of two physicians, who substituted two bits of painted wood, made to resemble the metallic tractors. With these they wrought many marvellous cures, and published a volume of reports upon them. When the true character of these substitute tractors became known Perkinism was no more.—Dr. S. W. Abbott, in the *Boston Medical and Surgical Journal.*

The Fate of a Small Boy with a Cigarette.—In a pamphlet entitled "Tobacco, Insanity and Nervousness," recently published by Dr. L. Bremer, of St. Louis, it is boldly stated in large type that "the boy who smokes at seven will drink whiskey at fourteen, take to morphine at twenty or twenty-five, and wind up with cocaine and the rest of the narcotics at thirty and later on."

BOOKS RECEIVED.

A Treatise on Diseases of the Lungs and Pleura. By the late Wilson Fox, M.D. Edited by Sidney Coupland, M.D. 8vo, 1200 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A Treatise on the Ligation of the Great Arteries in Continuity, with Observations on the Nature, Progress, and Treatment of Aneurism. By Charles A. Ballance and Walter Edmunds. 8vo, 568 pages, illustrated. Macmillan & Co., New York.

Diseases of the Skin. By W. Allan Jamieson, M.D. 8vo, 644 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Manual of Operative Surgery. By Frederick Treves. Two volumes, 8vo. Vol. I., 775 pages; Vol. II., 775 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Dictionary of Treatment, or Therapeutic Index, Including Medical and Surgical Therapeutics. By William Whitla, M.D. 8vo, 921 pages. Lea Brothers & Co, Philadelphia, Pa.

Syphilis in Ancient and Prehistoric Times. By F. Buret. Translated by A. H. Ohmann-Dumesnil, M.D. Vol. I., 8vo, 226 pages. F. A. Davis, Philadelphia, Pa.

The Chinese. By Robert Coltman, Jr., M.D. 8vo, 212 pages, illustrated. F. A. Davis, Philadelphia, Pa.

Essentials of Physics. By Fred. J. Brockway, M.D. 12mo, 330 pages, illustrated. W. B. Saunders, Philadelphia, Pa.

Consumption: How to Prevent it, and How to Live with it. By N. S. Davis, Jr., M.D. 12mo, 143 pages. F. A. Davis, Philadelphia, Pa.

The New Cure of Consumption by its Own Virus. By J. Compton Burnett, M.D. Second Edition. 12mo, 187 pages. Boericke & Tafel, Philadelphia, Pa.

Surgical Diseases of the Ovaries and Fallopian Tubes, Including Tubal Pregnancy. By J. Bland Sutton. 12mo, 500 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

First Lines in Midwifery. By G. Ernest Herman. 12mo, 191 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

A History of Epidemics in Britain from A. D. 664, to the Extinction of the Plague. By Charles Creighton, M.D. 8vo, 706 pages. Macmillan & Co., New York.

The Anatomical and Histological Dissection of the Human Ear. By Dr. Adam Politzer. Translated from the German by George Stone. 8vo, 272 pages, illustrated. Baillière, Tindall & Cox, London.

The Hydriatic Treatment of Typhoid Fever. By Charles Sihler, M.D. 12mo, 340 pages.

Massage and the Original Swedish Movements. By Kurre W. Ostrom. Second Edition, 12mo, 143 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

Surgical Anatomy for Students. By A. Marmaduke Sheild, M.D. 8vo, 226 pages. D. Appleton & Co., New York.

Botany: A Concise Manual for Students of Medicine and Science. By Alexander Johnstone, F.G.S. 8vo, 260 pages, illustrated. D. Appleton & Co., New York.

Physical Diagnosis. By G. A. Gibson, M.D., and William Russell, M.D. 8vo, 276 pages, illustrated. D. Appleton & Co., New York.

Essentials of Medical Electricity. By D. D. Stewart, M.D., and E. S. Lawrance, M.D. 8vo, 158 pages, illustrated. W. B. Saunders, Philadelphia, Pa.

The Principles of Bacteriology. By A. C. Abbott, M.D. 8vo, 263 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

The Physicians' Visiting List for 1892. P. Blakiston, Son & Co., Philadelphia, Pa.

The Medical News Visiting List, 1892. Lea Brothers & Co., Philadelphia, Pa.

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Original Articles.

ON HEREDITARY CHOREA, WITH A REPORT OF THREE ADDITIONAL CASES AND DETAILS OF AN AUTOPSY.[1]

BY WHARTON SINKLER, M.D.,

PHILADELPHIA, PA.

PHYSICIAN TO THE PHILADELPHIA ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES, AND NEUROLOGIST TO THE PHILADELPHIA HOSPITAL.

THIS affection is one of considerable interest, partly on account of its rarity, but more especially from the peculiar and unvarying symptoms in every case which is met with.

The disease was first described by Dr. C. O. Waters, in a letter to Dr. Dunglison, which was published in his "Practice of Medicine," in 1841. It was also detailed by Dr. Charles B. Gorman, in a thesis for the degree of Doctor of Medicine, at the Jefferson Medical College, and referred to by Dr. Dunglison in the same volume of his "Practice." Dr. Irving W. Lyon reported some cases in the *American Medical Times*, in 1863, but it was not until Dr. Huntington, in 1872, read a paper on "Chorea," in which he mentioned the hereditary type, that the disease attracted any attention. From that time numerous cases have been reported, and the name of Huntington's chorea is frequently applied to the affection.

The choreic movements in this disease are much like those of St. Vitus's dance commonly met with in children, but they vary in certain peculiarities. They are more constant, more excessive, more rhythmical, and less under the influence of the will than in Sydenham's chorea. The patient is continually repeating the same irregular, jerky movements while sitting or standing, but when he attempts to walk the normal gait is interfered with by the grotesque and involuntary movements which are interposed. For example, as in the case of two of the patients, whom I shall describe later, when told to walk they would take a few steps quite naturally, then suddenly one leg would be violently thrust forward and the other brought up to it quickly with a little hop like a dancing step, then a few more sedate steps would be taken, to be again interrupted by the dancing step. Several writers have referred to this peculiarity in the gait.

In hereditary chorea, as the name implies, the disease is handed down from one generation to another; but we must bear in mind the distinction between hereditary chorea and the hereditary tendency to chorea. In the one the disease occurs in one generation after another, from father to son, or daughter, and following the same type; in the other, the disease presents itself in several children in the same family, differing perhaps in degree, and very frequently with no history of chorea in preceding generations, but instead, a history of some other neurosis. It is said that if the disease fails to appear in one generation all succeeding generations of this branch of the family are exempt from it. This, although generally the case, is not an unvarying rule.

The disease does not occur until middle life, beginning at about thirty-five years of age, and is essentially chronic. It never gets well, although there may be periods of relief, but, as a rule, it steadily goes on, getting worse until the death of the patient. This may not occur for many years, the disease lasting ten, fifteen, or even twenty-five years. Mental disturbances are common. Sometimes there are delusions of grandeur, and an elevated opinion of personal attraction, etc., and sometimes there is melancholia or dementia.

In September, 1888, I read before the American Neurological Association a paper[1] on "Hereditary Chorea," and recorded the histories of two new cases. Before that time only twelve different authors had reported cases, occurring in fifteen different families; but since then there have been extensive additions to the literature of the subject, and many cases have been reported in all parts of the world. A number of these cases have been found in insane asylums.

Klippel[2] relates a case of this affection in a man in whom there were irregular muscular movements beginning at the age of fifteen years. These increased in severity, but he remained in the army until the age of twenty-four years, when his condition was such that he was unfit for the service. The patient had always been irritable, and when he came under observation at the age of twenty-nine, he was morose, suicidal, and subject to attacks of violent rage. He was suspicious, and constantly thinking that someone was going to injure him. There was general chorea of all the muscles of the trunk, extremities, and face, and well-marked facial asymmetry.

Suckling[3] adds a case of hereditary chorea in a man of thirty-nine, who had been affected since about thirty-five years of age. The patient's mother died at fifty-six, having been choreic for sixteen years; and one of his sisters, aged thirty-eight, had had the disease for five years. Suckling states that a daughter of the patient, aged twelve years, was also choreic.

Theodore Diller, M.D., in a paper on this subject,[4] gives the histories of five cases; three of these were patients in the Iowa Hospital for the Insane, two of them being brothers. Another case was communicated to the author by Dr. G. Alder Blumer, under whose care he was in the State Lunatic Asylum, Utica, N. Y. The fifth case was under Dr. Diller, in the State Asylum for the Insane, Danville, Pa. This patient was one of a large family, ten in all; five of them were choreic.[5] Of the relatives of this patient, the father, two paternal aunts, and two paternal uncles had the disease. The grandfather was also choreic. The affection had begun at about the age of forty, and she had been affected mentally since the beginning of the chorea; she was melancholic and subject to fits of anger, in which she had threatened to poison her neighbors, and did attempt suicide. Diller, in this paper, expresses his doubts as to there being any difference in the essential characters of hereditary chorea and the ordinary chorea of children. He prefers to call them varieties of the same affection. It is true that the multiplication of the nomenclature of disease is undesirable; but the differences in all of the features of the two forms of chorea are so great that they are practically different affections. When the morbid anatomy of the disease has been studied sufficiently, no doubt there will be marked pathological differences found. W. P. Herringham, in an admirable paper on this subject,[6] expresses himself as follows: "The conclu-

[1] Read before the Medical Society of Virginia, October 8, 1891.

[1] Journal of Nervous and Mental Diseases, February, 1889.
[2] Encéphale, vol. viii., p. 716. Paris, 1888.
[3] Birmingham Medical Review, September, 1889.
[4] American Journal of the Medical Sciences, December, 1889.
[5] I called attention, in the paper above referred to, to the fact that frequently these cases belong to large families.
[6] Brain, October, 1888.

sion which comparison suggests is, that the two, that is, hereditary and Sydenham's chorea, are produced by affections of the same parts, but of a different nature."

In an interesting paper by Diller,[1] on "Chorea among the Insane," the writer records thirty-nine cases; of these thirty-three were furnished by the medical officers of twenty-three hospitals to which Dr. Diller had sent a circular asking for information on the subject. Of these there were but three cases of the hereditary form. These were reported by Dr. Diller in his paper already referred to. Dr. Diller's conclusions are that chorea is more common among the insane than is usually supposed. In the twenty-three asylums from which he got replies to his letters of inquiry, there are sixteen thousand four hundred and ninety-nine inmates; among these there were thirty-nine choreic, or a proportion of 1 to 423$\frac{8}{9}$. I cannot agree with Diller that in all long-standing cases of chorea there is more or less marked tendency to mental deterioration. There are many cases of chronic chorea in which the mental condition is normal, and I recall the case of a man of thirty-four, who had been choreic from birth, who was, as far as could be observed, normal mentally, and was able to support himself by the business which he carried on.

Bower[2] records three cases of this form of chorea. The first was in a negro, not a full-blooded African, however. The patient has almost straight hair and a copper-colored skin. His mother, her two sisters, and one brother had the same affection. The patient was thirty-six years of age, and the disease had begun at about thirty. He had been a hard drinker, and had a history of paraplegia, coming on when he was twenty eight and lasting about three months. The movements were constant and characteristic, and his speech was slow and hesitating. His mental condition was unaffected.

Bower's second case presented all of the features of hereditary chorea, but there was an absence of a history of the disease in any branch of his family. The patient was thirty-two years of age, and there were twitchings and irregular movements beginning at twenty-nine. He had no evidences of mental disturbance. The third was a woman, forty-one years of age, in whom choreic movements began at the age of thirty-six. Her father had the same affection, and what is very interesting, her baby of four months had almost constant choreic twitchings of both hands. In this patient there was slight beginning dementia. All of these patients were in the wards of the Philadelphia Hospital.

Korniloff, a Russian, has reported a case of hereditary[3] chorea. Hay, in a valuable article,[4] adds to the literature of the subject six cases which have come under his observation in the State Asylum for the Insane, Morris Plains, N. J., and gives notes of two more cases which were in the same institution a few years previous, making eight additional cases in all. All of these patients were taken to the Asylum for mental diseases. It is singular that so few cases of this disease have been reported from other hospitals for the insane. In Diller's cases, referred to above, there were but five cases of the hereditary form of chorea among the thirty-nine adult choreas which were found among the inmates of twenty-nine asylums. Hay's cases are all well-marked examples of the disease under consideration, and all of them had a family history of chorea going back one or more generations. In one patient the choreic movements did not become constant until nearly her sixtieth year, although there had been several brief attacks previously. Another case became choreic at fifty-three years of age. The daughter of one of these cases became choreic before the age of twenty. In two of Hay's patients there was a history of acute rheumatism, and in two others, in which there was no record of rheumatism, there were cardiac murmurs.

Clarence King[1] makes a third communication on the subject of hereditary chorea, and gives the histories of two additional cases, a brother and a sister; both were insane, and were inmates of the Cattaraugus County Insane Asylum, N. Y. The maternal grandmother was the first among the ancestors in whom the disease could be traced. Mrs. S——, one of the cases, had the disease since she was twenty years of age, and was in the ward for imbeciles. Her brother, Henry C——, was sixty years of age, and had been choreic for fourteen years. Two of his children were said to have unmistakable signs of the disease, their ages being eighteen and sixteen years.

Dr. William Osler[2] reports the case of a man, aged fifty-nine years, who had had chorea for eight years. He had general irregular movements and his gait was peculiar. He walked with steps of irregular length, halting occasionally, and with stiffness of the legs. The reflexes were increased and there was slight ankle clonus. Four or five other members of the family were similarly affected. The expression was fatuous, and the mental condition was considered weak.

Arostegui[3] reports two cases. The details of these are not given in the abstract, which is the only report to which I have had access.

Biernacki[4] describes the case of a man, of forty-eight, who had been suffering from choreic movements for five years. His mother and maternal grandfather had had the same affection. His memory was considerably impaired.

Jolly[5] reports the following case: "Woman, thirty-five years old. Disease began at twenty-seven years. Patient gives as cause death of husband. First symptoms said to be twitching of face, but may have begun in leg. Finally the twitchings extended throughout the entire body. At the present time the rather anæmic woman presents the appearance of a rather severe case of ordinary chorea minor. The muscles of the face, trunk, and extremities are in constant movement. The brows are raised, mouth grins, eyes roll, and tongue protrudes in quick succession. The gait is rocking, the steps dancing and scraping, and sometimes, on account of sudden motion of the trunk or strong flying out of a foot, the gait is interrupted. The speech is often cut short by the smacking of the lips or sudden inspiration, as in many cases of acute chorea, while no true disturbance of articulation exists.

"The patient can, when comfortably quiet, write her name and short sentences. During sleep the motions cease. Mental disturbances of two kinds are recognizable. She herself complains of loss of memory, which can also be objectively proved. The statements as to the history of her disease are unsafe and incomplete, and sometimes fabulous. She is very weak in reckoning, while formerly she was quick and intelligent. For the rest, she is by no means to be regarded as imbecile. The second mental disturbance concerns the emotional sphere. She is very irritable, easily led to tears, and often much depressed. At these times the choreic movements increase. Her previous temperament is said to have been quiet. The mother of the patient and two brothers of the mother suffered from the same disease. The mother became ill, in her thirty-fifth year, in the same manner as the patient, and suffered till her death, aged forty-six years. In her, also, loss of memory was marked. In her later life she was feeble-minded, and at times maniacal. An elder brother of the mother became ill later than she, eight years before his death, from chronic chorea. He became imbecile. A younger brother of the mother will be exhibited by Dr. Remak. In this patient the chorea is less than in ——, and the mental affection is also less. Four

[1] American Journal of the Medical Sciences, April, 1890.
[2] Journal of Nervous and Mental Diseases, March, 1890, p. 131.
[3] Annual of the Universal Medical Sciences, 1890, vol. ii., c. 54.
[4] University Medical Magazine, June, 1890.

Philadelphia Medical News, July 15, 1890.
[2] Johns Hopkins Hospital Bulletin, December, 1890, vol. i., p. 110.
[3] Crónica Médico-Quirúrgica de la Habana, from Annual of the Medical Sciences, 1891, vol. ii., c. 52.
[4] Berlin. klin. Wochen., 1890, xxvii., 485, and Annual of the Universal Medical Sciences, 1891, vol. xi., c. 51.
[5] Neurolog. Centralblatt, June 1, 1891.

brothers and sisters of the mother remain healthy. The patient has two sisters, aged thirty and twenty five years, of whom the last suffers from migraine. In her generation she is the only one affected with chorea. Of the two living children of the patient, girls of ten and eleven years, the elder has suffered from chorea for two years, and is said to have had epileptic attacks for the same length of time."

I have had under my care, in the nervous wards of the Philadelphia Hospital, in the past two years, three patients with hereditary chorea, whose cases have not yet been reported. I am indebted to Dr. Alexander and Dr. John H. Rhein, internes of the Philadelphia Hospital, for the histories of these cases.

CASE I.—William D——, aged sixty-three, pedler by occupation. Admitted to the nervous wards of the Philadelphia Hospital, July 16, 1889. The patient knows of no disease in the family except the one with which he is affected. He states that his mother had the same affection. He thinks that in her case it came on late in life, and he knows that it continued until her death, which was at the age of about seventy. In his mother's case there was a general tremor, not so irregular, he says, or extreme, as in his own case. He knows of no other member of his family being affected with any nervous disorder. Patient has always had good health. He has not been intemperate or addicted to excesses of any kind. About fifteen years ago, that is, at the age of forty-eight, choreic movements began in his hands. There was at this time no cause to excite this condition. The movements gradually increased in extent, and by degrees involved the whole body, until the face and trunk became affected. About five years after the beginning of the trouble the irregular movements had extended to the whole body. He thinks that his disorder has been aggravated by treatment by arsenic.

Present Condition.—All of the muscles of the body, including the facial muscles, are involved in the choreic movements. There is continual twitching and jerking, and the movements are greatly exaggerated by any excitement. A strong effort of the will can control the movements for a short time, and during sleep they cease entirely. Speech is somewhat affected, his articulation being slow and halting. The knee-jerks are exaggerated, and all of the cutaneous reflexes are also increased. His mind is somewhat affected. He is not clear in giving an account of himself, but it is difficult to say whether he has any delusions. There is no pain, and no impairment of sensation. There are no bladder or rectal symptoms. His general health is good, and no disease of any of the abdominal or thoracic organs can be detected.

CASE II.—Mary D——, aged forty-six, white; born in Ireland; occupation, housework. Admitted to the Philadelphia Hospital, July 20, 1890. Her grandparents died of old age. Mother died at the age of thirty, of consumption, according to the patient's statement. Five years ago her father had a stroke of paralysis. This was very slight, and kept him in bed only three weeks. He now walks well with the aid of a cane. His speech is slightly affected. She has two brothers, who are well and strong; one sister, who is dead, from causes unknown to patient. She says that her entire family is nervous, that is, all have slight tremor of the hands in holding the paper to read. She has had the diseases of childhood and small-pox; with these exceptions has always been healthy. She has never had rheumatism. Her menstrual flow was established at the age of fifteen; she has always been regular and there has been no dysmenorrhœa. She still menstruates regularly. She has always lived with her father, who has abused her constantly. She says, "he made a foot ball of her head." Two years ago he struck her an unusually hard blow on the side of her head. This hurt her very much at the time, but did not render her unconscious. A day or two after this she was asked by a neighbor why her head shook so much. She did not know that there were any movements. She soon found that her hands and the whole body were in constant motion. These movements do not tire her, and she is not conscious that they are made unless her attention is called to it, or she happens to look at herself in the looking glass. She can read without difficulty. Her head is held a little on the right side, and has a constant back-and-forward or lateral movement. There are slight spasmodic inco-ordinate movements of both hands and feet, which can be arrested by attention or voluntary effort. The tremor is irregular and well-marked, without being coarse. Her gait is characteristic. She is able to walk, but after taking five or six steps in a deliberate fashion, there comes a long stride with one foot, then she brings up the other in a studied and measured way, much like a dancing step—then continues regular steps for five or six more, and again repeats the movement of bringing the second foot up, after a long stride. She cannot walk in a straight line, going constantly off to one side or the other. All voluntary efforts are slow and labored. The tongue is protruded well, but is not held out for any time, it being returned suddenly, and apparently involuntarily. Choreic movements affect the muscles of the neck. The head is constantly being rotated to the left and upward, and there is apparently some contraction of the sterno-cleido-mastoid muscle which holds the head even when not moving in the above-described position. The intellect is impaired. The patient is voluble, and often repeats pointless remarks. She is easily excited, and one day, after having been alarmed at the prospect of an electrical examination, she was much excited, talked loudly, acted strangely, and was very restless for two hours. The pupils are small, equal, and responsive to light. There is slight lateral nystagmus. The reflexes are everywhere exaggerated; sensation is everywhere good, and there is no loss in motor power. Her lungs and heart are normal, and her general health is fairly good.

Examination, July 17, 1891.—Patient's general condition is about the same as in the last note. The choreic movements are more extensive. The eyelids cannot be kept quiet, and the orbicularis oris is in constant motion. The movements of the arms are peculiar. The left arm is flexed at an obtuse angle, with the hand extended to a right angle, with the arm and the fingers partially flexed. This position is constant, the movements exaggerating the position. The forearm is also rotated, and the whole arm moved upward and a little outward. The right arm is usually extended, and the movements on this side are more typically choreic, that is, the arm is not held stiff. The body rotates on the pelvis. The legs are also affected, the movements consisting of flexing of the feet and rotation of the legs, the thighs being occasionally flexed a little. The knee-jerk is now sluggish, elbow-jerks normal. The plantar reflex is very active. The gait is as before described, all the choreic movements are exaggerated when she walks and cease during sleep. She complains of pains.

CASE III.—John W——, aged forty-eight, white; native of Germany; occupation, carpet-weaver. Admitted to the Philadelphia Hospital, July 2, 1890. His paternal grandfather is said to have had the same form of chorea as the patient, but no data can be obtained in regard to his case. The patient's father began to show irregular spasmodic movements of the head and extremities when he was forty years of age. He grew progressively worse and died at the age of fifty years. One sister began to show symptoms of the same disease at the age of fifteen. She is still living, but is in Germany, and the patient cannot tell what her present condition is as he has not seen her for many years. When twenty-nine years of age the patient first noticed a stiffness in his arms and hands, so marked that he could not work with his usual ease. Soon after this he found that his hands were beginning to move about in an irregular manner. He did not feel the movements himself, and would not have known that they were

made unless he was looking at his hands. A year later the head became involved, and in a short time the movements extended to his legs. He has not been able to do work of any kind since thirty years of age.

Present Condition.—The patient is entirely unconscious of his movements. They do not cause him any pain, weariness, or inconvenience. The arms, head, and trunk are in continual movement, the movements being greatest if he is excited in any way; for instance, asking him questions will increase all of the movements to a marked degree. The movements are greater on the left side. He can feed himself, but with very great difficulty, and attempts at voluntary movements increase the chorea. His gait is peculiar and characteristic of the disease. It is very similar to the walk of Mary D——. In walking his whole attention seems absorbed by the effort. The step is measured and slow. The leg and thigh are first well flexed, then the weight of the body is slowly and cautiously thrown on one foot, the same movements being repeated on the other side of the body. After six or eight steps have been taken in regular succession, one foot is suddenly thrown forward, making a long stride, then the other foot is brought up to a short distance from the rear of the first. The regular steps are then taken for the usual time, to be again followed by the long strides. These long strides usually alternate, and very seldom do two occur on the same side in succession. The whole walk looks studied and much like a dancing figure. The tongue cannot be kept protruded. There is no loss of power and there is no loss of sensation. Reflexes: The knee-jerk and all of the other reflexes are increased. Ankle clonus can be developed. The plantar, epigastric, and cremasteric reflexes are exaggerated, as are the arm tendon taps. The pupils are equal and respond to light. His memory is considerably impaired, he is reticent, and never converses or reads. His speech is jerky and unintelligible. He has exhibited no delusions but his mental calibre is evidently far below normal. His appetite is good. There is marked constipation, but his general health is excellent. Although uncommunicative and having but little intercourse with the other patients he was cheerful enough, and when asked how he was, always declared that he was getting better. In March, 1891, he fell while going down-stairs and fractured the neck of the right humerus; although carefully dressed the bone did not unite. His condition remained about the same until May 14, 1891. On this day while sitting in the ward he fell from the chair to the floor, being apparently thrown by one of his choreic movements. He was able to get up, and with some assistance was got into bed. The next morning he was in a semi-conscious condition. There was no paralysis, no change in the pupils, and by arousing him he apparently understood questions but did not reply to them. When told to do so he put out his tongue, and if the arm were raised it would be held up for some minutes. He took nourishment when it was given to him. The stupor gradually became more profound and the patient died May 18th. From the time of the last fall until death the choreic movements ceased entirely. It was impossible to get the consent of the friends to make an autopsy.

These additional cases of hereditary chorea all bear a striking resemblance in their clinical features to those already published, and we are enabled by the increased material at our command to draw more definite conclusions than formerly.

1st. The fact of heredity is sustained. In one of Bower's cases, there was no history of the disease among the progenitors of the patient, but all of the symptoms were identical with those usually met with in hereditary chorea, and, as Dr. Mills justly remarked, "the disease must have a beginning," and this patient was probably the original case in his family. In one of my cases (Case II.) there is no clear history of heredity, but the symptoms are so typical that I think I am justified in classing it as a case of this disease.

2d. In most of the cases the disease began between the ages of thirty-five and fifty; but there are a number of exceptions to this rule. In one of Hay's cases the disease was not established until after sixty years of age, and in another, not until after the fiftieth year. In one of my last cases (Case III.), the irregular movements began at about twenty-nine years. Hoffman relates a case which began at ten years, and one who became affected while going to school. One of Lannois's cases developed the disease at twenty-one, and another, of Hay's, in youth. In King's last series of cases there are several in whom the affections began under twenty years of age. Mrs. S—— suffered from chorea for twenty years. Two of the children of Henry C——, the brother of Mrs. S——, were choreic at the age of sixteen and eighteen years. Suckling's patient had a daughter who was twelve years of age, and who showed, according to the author, unmistakable signs of the disease. Khppel's patient became choreic at fifteen years. A sister of one of my patients (Case III.) is said to have become choreic at fifteen years.

Mental disease occurs in most patients who are affected with hereditary chorea. In some the mental disturbance does not begin until the individual has been choreic for several years, but in others the insanity and chorea begin at the same time. Sometimes the want of mental equilibrium is noted first. The form of mental symptoms is generally of the same type. There is melancholia, with a tendency to suicide, irritability of temper, supposed delusions, and occasional outbreaks of violence are common. In the patients who have come under my own observation mental disturbance has been present, but has not been great. John W—— (Case III.) was melancholic, but had no delusions; and Mary D—— (Case II.) had mild dementia. In Huntington's patients, the two brothers, whose cases he related, there were delusions of grandeur; they thought they were captivating to the opposite sex, and made themselves conspicuous by their actions when in the street. This form of mental disorder is exceptional.

From a study of the cases now on record I have come to the conclusion that there are two forms of hereditary chorea, one in which the irregular muscular movements begin first, and, after a lapse of years, mental deterioration begins, and the other, in which the mental disease begins before, or simultaneously with, the chorea. The tendency to early or late development of insanity belongs to certain families. Rheumatism has occurred in a number of cases, notably in two of Hay's, and several patients have had valvular disease of the heart. The knee jerks are exaggerated in most of the cases in which the reflexes have been observed, and occasionally there has been recorded the presence of ankle clonus. King mentions a peculiarity in some of his patients which I have observed in two or three of mine. It is a tendency to stand in a certain position for long periods. For example, Mrs. S——, one of King's patients, was accustomed to stand for many hours, especially when trying to masticate food, with her body thrown forward to a level of her hips, and her arms extended backward by the side of the body, the palms looking upward. One of my patients, David M——, would stand leaning against the side of a building for long intervals. The gait in this form of chorea deserves especial attention, for it is so unlike that of Sydenham's chorea. In several of the cases that I have seen the walk was much alike. The description of it in the case of John W—— (Case III.) is quite accurate. It is somewhat like a dancing step, measured and studied, but with a sudden and quick change in the time. There is apparently little change in the sexual function; several patients are mentioned as having borne children after becoming choreic. The pathology is still undetermined, but there is no doubt that the disease is one of developmental origin.

I have had the opportunity of making an autopsy in one case of hereditary chorea. The patient was David

M——, whose case I reported in 1888.[1] He had suffered from the affection for ten years, and his death was due to exhaustion. He was worn out by the excessive movements, and during the last six months of his life gradually lost strength, and was finally confined to his bed, and died as a result of exhaustion due to the choreic movements, February 5, 1891. The skull-cap was extremely thick and the diploë was absent; the dura was adherent in places and was thick and tough; the meninges were congested and there was considerable œdema; the brain and cord were removed together. The membranes of the cord were congested, and to a small extent were adherent. There was no gross lesion observed, but the brain was not cut for the reason that it was preserved for later examination. The kidneys weighed about three and a half ounces each; the liver two pounds and five ounces. Though there was some slight sclerosis of the organs, there was no pronounced lesion anywhere found. The brain, unfortunately, was preserved in chloride of zinc solution, and therefore was useless for microscopic examination. The cord, however, was well preserved in Muller's fluid, and through the kindness of Dr. William M. Gray, of Washington, I am able to present these beautiful sections. The sections were examined under the microscope from the lumbar, dorsal, and cervical cord, stained with borax-carmine, and by Weigert's method. Macroscopic sections treated by the latter method show the following: All take the blue-black stain well in the posterior columns, while the remainder of the white matter stains poorly, especially in the dorsal and cervical regions. In the carmine sections the antero and lateral white matter stains too deeply, this again being most marked in the dorsal and cervical regions. The region of the central canal also stains a deep red. The cross sections are symmetrical in outline. Delineation of white and gray matter good. Microscopically the posterior columns are normal, except possibly a very slight increase of connective tissue in spots. In the remainder of the white matter there is considerable increase in the connective tissue. The walls of the blood-vessels are thickened, many axis-cylinders are missing, but never enough to completely cut off the tract. Motor-cells and nerve-roots normal. The region of the central canal is largely occupied by a mass of nuclear tissue similar to that found in normal cords, but the mass is far larger than usual, and stains much more deeply in the cervical region. The canal itself is quite large and irregular in outline. In the dorsal and lumbar regions it is small, and in one section shows as two canals.

Whether the condition described above be developmental, or whether it is due to a slow inflammation or to other causes, we are unable to say. The important change seems to us to consist rather in that which has taken place in the anterior and lateral white matter than that of the central canal.

There are many points of similarity between this affection and hereditary ataxia, which is now well established as a disease due to defective development of the nervous system. A striking feature in the histories of all of these cases is the marked neurotic taint through their families. Insanity, epilepsy, intemperance, and vice are prevalent in the family history. Hay calls attention to the frequent association of phthisis in the family. King refers to a circumstance to which I also alluded in my previous paper, namely, the probability that many, if not most, of the cases reported in this country are of common ancestry. East Hampton, L. I., according to King, was settled in 1649, and choreic families have lived there ever since. Several emigrations have taken place from there; one of them to Delaware County, N. Y., and it was from Franklin, Delaware County, that Dr. Waters's original observations were made. Charles B. Gorman, in his thesis, quoted by Dunglison, speaks of the affection existing in Luzerne County, Pa., which is less than seventy-five miles from Delaware County, N. Y. One of my cases was from Wyoming County, Pa., which adjoins Luzerne.

In closing, I would express the following conclusions: Hereditary chorea, while resembling in many respects Sydenham's chorea, differs in so many of its features that it is essentially a distinct and separate affection; that while, as a rule, there is remarkable uniformity in the symptoms presented, there may be variations; for example, in the occurrence of the disease at or before puberty. That it is not an invariable rule that if the disease fails to appear in one branch of the family the descendants of that branch have immunity. That the arrest of the movements by voluntary effort is not a distinguishing feature of hereditary chorea, as in some cases voluntary effort aggravates the movements, and there are many cases of Sydenham's chorea in which voluntary effort arrests the movements for the time. That chorea among the adult insane is a different affection from hereditary chorea with insanity. That the evidence we have indicates that the pathology of the disease is a degeneration of imperfectly developed cells in the motor tract or in the cerebral cortex and in the spinal cord. The occurrence of the disease at an early age in children of some of the cases recorded is confirmatory of this view.

[1] Journal of Nervous and Mental Diseases, February, 1889.

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Paraplegia of Syphilitic Origin.—Dr. Boulloche gives statistics to show that in sixty-two per cent. of cases the paraplegia shows itself during the first four years following the chancre. In eight instances it occurred in the first year. Retarded myelitis, that is, coming on long after the chancre, either in the midst of tertiary accidents, or after a long period of inactivity, is of very rare occurrence. Figures show that medullary affections seem to burst forth twice as frequently in those who have had no mercurial treatment, or only an insufficient treatment, as in patients who have been well cared for. Chronic myelitis is rarely fatal, but it is also rarely cured. It appears as though paraplegias accompanied by severe pains are benefited more by mercury than the others, perhaps because of the existence of a gummous or sclero-gummous meningitis. Acute paraplegias, of precocious nature and rapid march, do not get well. Improvement is frequent in the tardy forms.—*Journal de Médecine*, December, 1891.

SOMNAL: A CLINICAL AND EXPERIMENTAL STUDY OF ITS PHYSIOLOGICAL AND THERAPEUTIC ACTION.

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Much interest has centred upon the new hypnotic, somnal, and clinical reports of its use, together with experimental data, are rapidly confirming, and even exceeding, the claims of its discoverer. The medical fraternity will gladly welcome this new-comer to its materia medica, as it seems to possess the properties of a hypnotic *par excellence*, without the distressing and dangerous qualities of other drugs of this class. All of these latter are notoriously uncertain and inconstant in action, and most of them, especially chloral and morphia, expose the patient to the dangers of habitual use. The administration of somnal is happily free from these unpleasant sequelæ. Since the time of its discovery by Radlauer, of Berlin, in the fall of 1889, the action of somnal has been rigidly scrutinized and impartially investigated, which has resulted in unqualified endorsement of its efficiency and reliability; and its prompt and harmless qualities have been the delight of all clinical observers.

In selecting a drug of this class the careful practitioner will be guided in his choice, after satisfying himself of its hypnotic potency, by its correlative effect upon the circulatory and respiratory apparatus; and it will be the chief object of this paper to determine how much, and in what way, these important functions are influenced by somnal. If it can be shown, by experimental tests and clinical observation, that this drug, in therapeutic doses, has little or no effect in this direction, then somnal stands alone and apart from all other contestants for recognition as the only perfect hypnotic.

Physiological Action.—Locally, somnal is non-irritant. It has been noticed that at the point of hypodermatic injection, in animals, there was no evidence of irritation. Upon the mucous membrane of the stomach it has a slightly stimulating effect which serves to excite the secretion of the digestive fluids. In man, the ingestion of from two to three grammes results, within thirty to forty-five minutes, in a condition of quiet sleep, indistinguishably allied to natural sleep. The patient can be easily aroused to full consciousness, but if left alone, soon relapses to tranquillized slumber. The pulse in this degree of action is not perceptibly affected, but in some cases it may be found a little slower, with slightly lowered tension. The pupil is contracted as in natural sleep, and returns to the normal if the patient is aroused. Respiration is full and regular. When large amounts are given, the pulse shows momentarily an increase in rate and tension, but soon returns to normal; and if the dose has been excessive (ʒ ij.) the arterial pressure may relax considerably and the heart-rate diminish notably. In such cases the temperature is slightly reduced, there is muscular relaxation and diminution of reflexes, and occasionally of sensibility.

Toxic doses, in animals, produce primarily an increase in the pulse-rate and blood-pressure, but, secondarily, notably diminish both. There is extreme muscular relaxation, weak pulse, pupils first contracted, then widely dilated, paralysis, coma, and death. Generally, respiration is first arrested and then the heart; although this order has not been constantly observed.

The Heart.—If the drug be directly applied to the heart of a frog, *in situ*, it will cause immediate diastolic arrest of that viscus and diminish, if not wholly destroy, the electrical irritability of the muscle-fibre. After the death of the batrachian, if a large amount of the drug has been applied to the heart, the latter fails to respond to the strongest electrical stimulus. It is therefore evident that the topical application of the drug exercises a decidedly depressing action upon the heart, destroying its susceptibility to nervous influences.

The Pulse.—If the dose has been sufficiently large the constant effect of the drug is to diminish the rapidity of the beat, which continues until the death of the animal. The exposed heart of the frog showed a diminution in the force of its contractions accompanying the retarded heart-rate; and in the case of a dog the tracings taken with the manometer indicated increase in the size of the pulse-waves under the same condition.

Experiments Nos. I. and II.

Normal Frogs. Isolated Frogs' Hearts placed in Two per cent. Solutions of Somnal and Common Salt, respectively.

Somnal solution.			Common salt solution.		
Time.		Pulse.	Time.		Pulse.
Hours.	Minutes.	Per minute.	Hours.	Minutes.	Per minute.
10	10	46	10	11	54
10	13	32	10	14	54
10	17	24	10	18	54
10	20	18	10	21	50
10	23	16	10	24	50
10	26	16	10	27	46
10	28	16	10	29	40
10	30	14	10	31	36
10	34	8	10	35	32
10	40	4	10	43	30
10	55	2	10	58	24
11	6	Diastolic arrest.	11	10	20
			11	16	14
			11	20	6
			11	24	Diastolic arrest.

Experiments Nos. III. and IV.

Normal Frogs. Isolated Frogs' Hearts placed in Ten per cent. Solution of Somnal and Two per cent. Solution Common Salt, respectively.

Ten per cent. somnal solution.			Two per cent. common salt solution.		
Time.		Pulse.	Time.		Pulse.
Hours.	Minutes.	Per minute.	Hours.	Minutes.	Per minute.
12	15	50	12	16	58
12	19	20	12	21	58
12	22	6	12	23	54
12	30	2	12	32	54
12	34	Diastolic arrest.	12	35	46
			12	40	46
			12	55	36
			1	5	28
			1	15	16
			1	41	Heart arrested.

Experiment No. V.

With Manometer. Normal Dog, Weight 26.5 Kilos.

Time.	Dose.	Pulse.	Remarks.
H. M. S.	Grammes.	Per minute.	
9 00 00	.....	122	One hundred per cent. solution of somnal injection.
9 00 30	1.5		
9 01 10	.....	126	
9 01 30	.....	122	
9 01 50	.....	108	
9 02 30	.....	106	
9 02 50	.....	118	
9 03 30	.....	120	
9 06 00	.....	120	
9 10 00	.....	120	
9 10 30	3		
9 11 00	.....	118	
9 11 20	.....	122	Dog conscious; eye reflexes good.
9 11 40	.....	106	
9 12 00	.....	106	
9 12 30	.....	108	
9 13 10	.....	112	Still conscious; eye reflexes impaired; conjunctivæ congested.
9 15 00	.....	120	
9 17 00	5		
9 17 30	.....	114	

EXPERIMENT No. V.—*Continued.*

With Manometer. Normal Dog, Weight, 26.5 Kilos.

Time.	Dose.	Pulse.	Remarks.
H. M. S.			
9 17 50	.....	104	Pulse-waves large.
9 18 20	.....	98	
9 18 40	.....	94	
9 19 30	.....	94	
9 22 00	.....	94	
9 25 30	.....	94	Great muscular inco-ordination.
9 28 00	.....	96	
9 30 20	.....	94	Conscious; eye reflexes abolished; tremors of hind-legs.
9 33 10	.....	94	
9 35 10	.....	105	
9 38 30	.....	108	
9 40 00	.....	112	
9 50 00	.....	112	
9 55 20	7		
9 55 50	.....	108	
9 57 00	.....	94	
9 58 20	.....	86	
9 59 40	.....	78	
10 01 10	.....	66	
10 03 30	.....	52	Dog semi-conscious, hind-legs paralyzed.
10 05 20	.....	58	
10 07 30	.....	50	
10 10 00	.....	44	
10 18 30	10		
10 19 20	.....	34	
10 21 30	.....	32	Respiration suddenly arrested.
10 22 10	.....	.....	Heart arrested in diastole.

It will be seen by the foregoing that toxic doses of somnal exercise a decidedly depressing effect upon the heart, diminishing the number of contractions. How is this effect produced? I consider the action as twofold: 1. The drug acts, to a limited extent, directly upon the muscle-fibre of the heart, thereby diminishing its nervous irritability. 2. By stimulation of the cardio-inhibitory centres, for, when the pulse has been primarily depressed by the drug, and then section of the vagi made (thereby intercepting the inhibitory impulses to the heart) the cardiac rate and arterial pressure will instantly increase and remain so for a considerable length of time.

The following experiments (Nos. VI. and VII.) show that the heart-rate is diminished by the action of the drug after previous division of the vagi and the spinal cord, *i.e.*, independently of the extrinsic nervous mechanism of the heart.

EXPERIMENT No. VI.

Dog, Weight 22.42 Kilos.

Time.	Dose.	Pulse.	Remarks.
H. M. S.	Grammes.	Per minute.	
11 40 00	.....	.....	Vagi cut; tracheal cannula inserted.
12 00 00	.....	176	
12 00 40	1.5		
12 01 30	.....	176	
12 03 00	.....	176	
12 05 00	.....	176	
12 06 40	.....	168	
12 08 10	.....	168	
12 10 00	.....	172	
12 11 10	3		
12 13 30	.....	164	
12 15 20	.....	160	
12 18 00	.....	158	
12 18 10	.....	160	Pulse-waves very large.
12 18 40	5		
12 19 10	.....	152	
12 20 00	.....	146	
12 22 10	.....	148	
12 23 00	7		
12 24 10	.....	136	
12 25 30	.....	124	
12 26 10	.....	114	Respiration failed.
12 27 20	.....	.....	Heart arrested in diastole; post-mortem examination showed complete section of both vagi.

EXPERIMENT No. VII.

Dog, Weight 10.095 Kilos.

Time.	Dose.	Pulse.	Remarks.
H. M. S.	Grammes.	Per minute.	
3 10 00	.....	.....	Spinal cord and vagi cut; artificial respiration.
3 25 00	.....	184	
3 25 30	1		
3 26 20	.....	184	
3 27 30	.....	182	
3 29 00	.....	174	Pulse-waves large.
3 30 30	.....	172	
3 32 40	.....	174	
3 33.30	2.5		
3 34 50	.....	168	
3 36 10	.....	162	
3 37 40	.....	158	
3 39 20	.....	160	Pulse-waves small.
3 40 30	5		
3 41 20	.....	152	
3 42 10	.....	148	
3 43 00	.....	126	
3 44 40	.....	98	
3 45 20	.....	86	
3 45 50	.....	.....	Heart stopped without warning; post-mortem showed hyperæmia of meninges and substance of brain and cord; also congestion of lungs and abdominal viscera.

The Arterial Pressure.—In ordinary doses in man, the blood-pressure is practically not affected, although in some instances a slight primary increase, with gradual return to the normal, has been noted. In other cases an insignificant lowering of the arterial tension has been noticed; but this, I believe, is due to the natural relaxation of somnolence. In a large number of experiments upon dogs (see Exp. No. VIII.) there has been constantly noted, first a slight rise in pressure, then a gradual lowering of the same. As the dose becomes toxic, the pressure will be seen to fall rapidly, continuing to do so in proportion to the amount ingested. It is probable that the slight primary increase in tension is not due to any direct action upon the circulation, but is the result of changes in the character of the respiration. This deduc-

EXPERIMENT No. VIII.

Normal Dog, Weight 12 Kilos.

Time.	Dose.	Pressure.	Remarks.
H. M. S.	Grammes.	M.m.	
8 30 00	.....	150	
8 31 00	1		
8 31 20	.....	150	
8 31 40	.....	152	
8 32 10	.....	152	
8 32 30	.....	150	
8 33 00	.....	146	
8 35 20	.....	142	Eye reflexes good; pulse-waves large.
8 35 50	.....	142	
8 36 30	3		
8 37 10	.....	136	
8 37 40	.....	114	
8 38 00	.....	98	Faradic current to sciatic nerve.
8 38 20	.....	104	
8 38 40	.....	116	Eye reflexes abolished.
8 40 40	.....	120	Pulse-waves small.
8 40 30	5		
8 40 50	.....	90	
8 50 20	.....	64	Dog profoundly comatose; pupil firmly contracted.
8 50 50	.....	52	
8 51 30	.....	62	
8 52 10	.....	54	
8 55 00	.....	52	
8 58 00	.....	58	
8 59 00	.....	52	
9 02 00	.....	56	
9 06 00	.....	52	
9 07 50	.....	52	Respiration arrested.
9 08 20	.....	.....	Heart stopped in diastole; right ventricle greatly distended.

tion is based upon the fact that in curarized animals this rise in the arterial pressure is not observed. The following experiment, selected from a number, illustrates the foregoing.

It will be observed that the application of a strong faradic current to a sensory nerve of an animal under the influence of the drug caused an immediate rise in the arterial pressure, indicating that the lowered pressure was not a result of vaso-motor paralysis. Other experiments show further, that previous section of the vagi, or division of both the spinal cord and pneumogastrics, will not prevent the fall of the arterial pressure in an animal strongly under the influence of somnal. It is concluded, therefore, that the lowered blood-pressure is not dependent upon vaso-motor influences, but is the result of direct action upon the ganglionic centres of the heart, and possibly upon the heart-muscle itself.

Respiration.—Somnal in full doses rather lessens the number of respirations per minute, causing them to become slower and fuller. Under toxic doses this effect is much more pronounced, the respirations finally becoming rapid, shallow and arhythmical, and finally cease. Section of the vagi (see Exp. IX.) does not prevent these phenomena, and this effect of the drug must, therefore, be the result of its action upon the respiratory centre in the medulla.

EXPERIMENT NO. IX.

Normal Dog, Weight 8.05 *Kilos.*

Time.	Dose.	Respiration.	Remarks.
H. M. S.	Grammes.	Per minute.	
10 00 00	.....	16	
10 00 30	1.5		
10 01 30	.....	16	
10 03 00	.....	14	
10 04 20	.....	14	Respiration deep.
10 06 30	.....	14	
10 07 00	3		
10 07 50	.....	12	
10 08 30	.....	14	
10 10 00	.....	14	
10 11 30	6		
10 12 30	.....	62	
10 14 00	.....	84	Respiration shallow and arhythmical.
10 16 20	.....	86	Vagi cut.
10 17 40	.....	90	
10 19 00	.....	90	
10 21 23	.....	88	
10 26 20	.....	.....	Respiration ceases.
10 28 10	.....	.....	Heart stops.

Summary.—1. Locally, somnal is non-irritant, exerting rather a stimulating effect upon the mucous membrane of the stomach. When applied directly to the heart of the frog, it acts as a powerful poison, destroying its electro-excitability.

2. In therapeutic doses the drug exerts no appreciable physiological effect upon the heart, and may be regarded as safe. Toxic doses depress that viscus: *a*, by direct action upon the muscle-fibre; *b*, by stimulation of the cardio-inhibitory centres.

3. Therapeutic doses have little or no effect upon the pulse-rate. A slight primary rise in the arterial tension may be observed, which soon returns to normal, or may even fall below—the latter probably due to muscular relaxation during sleep. Toxic doses rapidly diminish pulse-rate and pressure; probably due to direct action upon ganglionic heart-centres.

4. Ordinary doses cause the respiration to become slow and full. Toxic amounts induce rapid, shallow, and irregular respiration; the result of depression of the respiratory centre at base of brain.

5 As, in therapeutic doses, sleep is induced without perceptibly affecting any other portion of the economy, it is fair to conclude that somnal acts directly and primarily upon the cerebrum.

Therapeutics.—The indication most promptly and perfectly met by somnal is to induce sleep, and it may be confidently relied upon by the prescriber in all cases where the insomnia is not the result of pain or syphilitic disease. As the nervous element predominates, somnal is the more certain to fulfil the requirements; as, for example, insomnia due to functional over-excitement of the brain after mental strain or anxiety, sleeplessness of delirium tremens, and in maniacal and hysterical disturbances. Its sedative and somniferent action is strikingly efficacious in the insomnia occurring during convalescence from acute disease. Where an adynamic condition exists, it must, of course, be used with caution. In whooping-cough, spasmodic laryngitis, asthma, "nervous cough," and chorea, it possesses decided sedative properties. A great element of safety is that the action of somnal, so far as I have observed, is never out of proportion to the amount ingested, nor does it act in a cumulative or other unexpected manner. The drug appears to possess little or no influence over insomnia due to acute inflammatory conditions.

THE MEDULLATED CORTICAL FIBRES WITH THE OSMIUM-COPPER-HÆMATOXYLIN STAIN—A PRELIMINARY HISTOLOGICAL NOTE.[1]

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AT the base of the gray matter of each of the convolutions lies an intricate mass of white medullated tubes of slightly different arrangement in the several parts of the cortex, as the callosal and other systems are joined with the fibræ propriæ. Most of these tubes are of medium fineness, dark contoured, with occasionally a well-defined branch from one of them visible, coming off at a T-angle. Very fine fibres cross the larger ones without any regular arrangement; their source is undeterminable, though probably they are collaterals from larger tubes.

Among the fibre masses may be seen occasional nerve-cells, some multipolar and quite large, others irregular in contour and smaller. The sharp distinction that was formerly made between the sub-cortical white and gray substances can therefore no longer be so sharply set, as the proportion of cells is in some places considerable.

The medullated tubes of the gray layers may be roughly divided into three principal systems—the radial, the inter-cellular, and the tangential or sub-pial fibres; besides which there are numerous scattered fibres that enter or come from the layers singly.

The radial shoot out from the sub-cortical white matter in two different ways, which unite to form the bands of vertically-directed fibres that are placed at almost regular intervals throughout the entire cortex. The first, the direct fibres, come off from the main mass at an acute angle, run closely together, and form a bundle that passes for some little distance in the inferior cellular layers without giving off many offshoots.

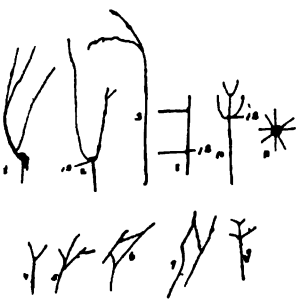
The fibres of the second variety are apparently much less numerous, join the bundles at an oblique angle some small distance from its base, and have a definite direction in their course. The two varieties form one compact bundle, which about the level of the fourth cellular layer begins to give off offshoots, each directed toward one of the larger pyramidal cells of the different layers. More numerous become these offshoots as the pyramidal cells in the mid regions are multiplied, until the band at the level of the upper layer of larger pyramidal cells finally dwindles down to three or four fibres.

Naturally it is not possible to trace each fibre to its cell, but a sufficiently large number were definitely made out to say positively such is the termination of the radial fibres. They seem to pass exclusively to these pyramidal cells, no exception to the rule being so far noted.

[1] The original method is given in The Johns Hopkins Hospital Bulletin, No. 13, 1891.

The manner of separation of the fibres from the parent bundle is at an oblique angle, after which they may be traced for some distance. As they approach the cell the medullary matter gradually decreases in thickness, and the coloring of the fibre is more of a brownish-black than more distally, then, for an exceedingly minute distance beyond, the axis-cylinder alone is seen, and without allowing of a definite view of the actual relation between it and the protoplasmic process, it disappears in the cellular protoplasm. This ending may take place at a considerable distance from the cell body, or quite close to it. In sections in which the cell protoplasm is stained through the incomplete reduction of the chrome salt by the copper acetate, the same relation is seen, only the whole tube is carried into the body of the nerve process without separation of the different parts to the eye.

In the upper portion of the radial band where the fibres are less dense, and sometimes at the sides, the fibres may occasionally be seen to divide into two branches, separating at an obtuse angle (Fig. 3); hence it is to be considered whether one fibre may not be connected with two, or possibly more cells, and the impulses from several cells may not in this way be conducted through the medium of a single fibre to the periphery, or to other parts of the central system.



1, 2, 3, 5, Branching fibres of the intercellular plexus; 4, radial fibre branching in the upper portion of the bundle; 6, 7, anastomosing fibres from the intercellular plexus; 8, collaterals of Ramon y Cajal, separating from the fibre at a T-angle, with a medullary node at each point of departure; 9, 10, end-brushes—9, from the dog; 10, human; 11, spur-shaped figure at the point of contact of fine fibres; 12, medullary nodes at the point of departure of branches. Osmium-copper-hæmatoxylon stain; Zeiss apochromatic immersion, 1–12, ocular, 4.

From the general direction of the oblique fibres that join the radial band in the inferior cell layers, it is to be surmised that they come or go to the corpus callosum; and by the process of exclusion those that go to others of the pyramidal cells, and form the rectangular portion of the radial bundles, are fibres that pass into the internal capsule, and perhaps go on to the pyramidal tracts.

The fibres composing the entire radial bands in all parts of the outer surface of the brain are medium-sized, non-varicose, medullated fibres, varying but slightly in fineness; if there be any difference it is in favor of the oblique fibres, which have perhaps a slightly larger calibre, and are sometimes irregular in contour. Few collaterals can be seen to come off from the radial bands. The whole arrangement is one similar to the silver broom palm (Thirnax Argentea), the band representing the stem of the plant, the fibres as they come off the side branches, and the cells at the terminations of the tubes the leaves.

Shooting out of the central white masses are numbers of single fibres that pass upward into the cellular layers, where, especially in the so-called fourth and fifth cellular layers, but also in higher regions, they may be seen to end free in close proximity to the smaller cells of these layers. They are fine tubes, regular in contour; all that are to be traced terminate in an end arborization of fine twigs (Figs. 9, 10). The sections having necessarily to be excessively thin, it is not to be determined to what extent they spread out horizontally. At the point where the end-brush commences there is always a little node of medullary matter between the first branches, then, as they branch again, a second node occurs, and so on at every division. Almost to the termination they have a blue-black stained sheath, that vanishes just before the fine, delicate pointed terminations which extrude from the medullary ends appear. The axis-cylinder, therefore, for an infinitesimal distance is unprotected by any covering, and free to conduct the nerve impulses to the cell body, but there is no continuity of fibril to cell to be observed.

A portion of these singly-entering fibres doubtless belong to the fibræ propriæ of the cortex, but a considerable portion of them must belong to the centripetal-coursing fibres from the periphery.

The Intercellular Net-work.—At the very base of the so-called fifth cellular layer, the horizontally coursing fibres, between the bundles of radial and other fibres coming off from the deeper white masses, show a certain degree of rarefaction; ascending toward the pia the number of fibres in the net-work soon increases greatly, and in the third and lower part of the second layers it is very dense, then higher it rapidly rarefies, until in the upper half of the first cellular layer and lower portion of the barren, the fibres are comparatively scanty. A large portion of those in the first cellular layer go to join the tangential fibres beneath the pial limit at an oblique angle and by single fibres.

The fibres composing the mass of the net-work consist of three varieties, differentiated by their calibre. The coarsest dark-contoured fibres run in all directions, and compared to the second and third varieties form an inconsiderable proportion. They are mainly derived from the subcellular white masses, to which a portion of them may be traced, and to the offshoots of the radial-fibre bands. Occasionally collaterals may be found coming off from their sides (non-radial fibres), invariably at a right angle, with a minute thickening of the medullary sheath at the point of departure (Fig. 8). This thickening is invariable. Where these collaterals end is not often to be discovered, as they are soon lost in meshwork, or change the angle of their course; rarely they may be traced to end-brushes. These end-brushes are to be found as high as the first cellular layer.

The fibres of the second classification are a little smaller than those of the tangential band, but there is considerable variation in their calibre. They are dark-contoured, and branch in numerous places at an obtuse angle (Figs. 1, 2, 4, 5, 6, 7.). Along their course they have regular swellings of the medullary sheath, and it is invariably from these points that the branching occurs. These medullary nodes have doubtless a definite physiological meaning, as they are constant in perfectly hardened tissues that have been taken from the living animal, and hardened in Flemming's fixation fluid. They probably correspond to the annular constrictions of Ranvier in the peripheral nerves. The branching of these fibres is without doubt. Much more difficult is it to determine positively if they anastomose. In a few instances I have been able to determine this with certainty, two of the examples being given in the figure (Figs. 6 and 7). The fibres occasionally show some difference in their contour, as in No. 1, where the fibre for a short distance centrally is quite fine, then it broadens out considerably and gives off three branches, which are traceable unbranched, but much finer than the parent stem, for some distance.

The third variety is distinguished by the extreme fineness of the tubes, running down to less than one quarter the calibre of the tangential fibres, and with the magnification of a 1 to 12 Zeiss immersion immeasurable. Their medullary matter is quite often clearly defined, an exceedingly thin ring around the finest thread-like axis-cylinder. Occasionally there are little varicosities of the medullary substance, and here the axis-cylinder can be also very distinctly seen. The nodes upon them are similar to those of the larger fibres, and when not very deeply dyed by the hæmatoxylon show the fine, darkly stained axis-cylinder passing unbroken through it. Like the larger ones, they branch frequently.

The fibres of the finest calibre are partly derived from those of larger size, partly from an unknown source. Along the margins and crossing the sheaths of the blood-vessels they may be traced for very considerable distances, and then disappear. They may be seen in all portions of the gray cortex, except in the barren and uppermost part of the first layer, where they are either absent or exist in

very inconsiderable numbers. Both varieties of fibres show an augmentatiou around the capsules of certain of the cortical cells, and at times the suggestion of a fine spray of nerve-threads may be seen on this capsule, which are apparently non-medullated, but are so fine as to render it a matter of uncertainty. The finest fibres meet here and there in aggregations of six or seven crossing each other, and form a star-shaped figure which has covering the axis a drop of myeline (Fig. 11).

Neither the second nor third class of fibres have any visible connection with the more internal white masses, and run solely in cellular regions with the exception of those going to the tangential band.

The silver method of Golgi has shown that the axis-cylinder processes of the nerve-cells branch in considerable numbers and run in all directions through the cellu lar layers. Therefore it is almost certain that the major part of this net-work is derived from the side twigs of the nerve-extensions of the larger pyramidal cells, as well as from the nerve-processes of those cells (sensitive) that do not leave the gray layers. Unfortunately the osmium-copper-hæmotoxylon method does not stain, except in exceptional instances, the protoplasm of the cell arms; and even when it does, the connection between fibre and protoplasm is lost in the deep coloring. We must accordingly leave the source of the intercellular plexus by this method in some doubt.

In the first cellular layer quite a large number of fibres of about the calibre of the second class ascend obliquely through the layer, some apparently arising in this region, others from deeper parts; all pass directly into the tangential band, where they may be traced for long distances. Branching of these fibres is excessively rare, only in a single instance have I seen it occur. The tangential band is a double one, it not only runs in the transverse diameter of the convolution, but also in the longitudinal. At its fullest development this band occupies rather more than the upper half of the most external layer, but the tubes composing it are at the same time rather widely separated. The further course and termination of the tangential fibres is wholly unknown.

Throughout the whole cortex no non-medullated fibres of any length were found to exist; so far as could be definitely determined, as soon as the protoplasmic character of the nerve cell process is lost, the medullated character of the nerve-fibre begins. It would seem therefore that the axis-cylinder was immediately covered with an isolating envelope as soon as it is separated from the cellular protoplasm.

The fibres from the mass of the larger pyramidal cells are accounted for by the bodies of fibres in the radial fasciæ being almost sufficient to accommodate the whole of them; with the smaller cells it is different, a portion undoubtedly turn upward and run in the tangential fibres to places unknown, but the number of fibres in these subpial longitudinal and transverse bundles are insufficient to take charge of but a small portion, and the remainder must end within the layers of the gray matter itself, among the fibres of the branching and anastomosing plexus, and in single end-brushes; also it is credible that the fibres from many of these cells simply run like certain elements in the molecular layer of the cerebellum, to influence other cells in adjacent portions of the cortex.

These deductions are drawn from the cortex of the human being and of the dog, and apply chiefly to the motor and frontal regions, in particular to the anterior central convolution, though but little difference is to be found in other portions of the cortex of the convexity of the brain beyond some variation in the density of the different fibre bands.

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Efficient Counter-Irritation.—A physician in Chicago suffers from pruritus ani whenever he takes a glass of champagne. He is a frequent diner-out and is regarded as one of the best after-dinner orators in town.

Clinical Department.

EXTRA DURAL TUMOR OF SPINE; PARAPLEGIA; OPERATION; RECOVERY.

By WILLIAM JONES, M.D.,

Professor of Clinical Surgery University of Oregon, Surgeon to St. Vincent's Hospital, Portland, Ore.

The spine being a new field, but recently invaded by the surgeon, any operation upon it is of importance and should be reported. It adds so much to the mass of knowledge on which must be based surgical interference in the future.

Alice M. W——, married, aged thirty-one, consulted me at St. Vincent's Hospital, on June 5, 1891. She was married seven years ago, and has one child aged six. Five years ago she commenced to suffer with a burning pain below the shoulder-blades. It was more severe on the right side. This pain was aggravated by exercise. Any jar or quick movement caused shooting pains in the same region. Three years ago a deformity of the spine was first noticed. This deformity was an angular curvature of the spine, between the shoulder blades. There was present well-marked Pott's disease of the spine. The deformity did not apparently increase after first being noticed. She suffered, off and on, with severe pains in the spine and stomach. In August, 1890, she was confined to her bed for a week on account of the severity of the pains. In the following September she commenced to notice some loss of muscular power in the limbs. Her knees would give way when she attempted to step up on a chair. By November 1st, muscular weakness had become so great that she could no longer stand. By December 1st, muscular paralysis was complete from the waist downward. There were involuntary contractions of the limbs. Slight irritation from movements of the bedclothes would cause the limbs to draw up violently. There was complete anæsthesia from the waist downward.

Examination showed a moderate angular curvature of the spine between the shoulder-blades, the most prominent point being the seventh dorsal vertebra. There was complete muscular paralysis from the waist downward. On the right side there was complete anæsthesia from the ninth rib downward, except over the following area: Commencing in the sacral region, with a breadth of one inch, and extending downward, gradually widening to a breath of three inches, on the back of the thigh, just above the knee, where it ended. Within this area she could feel the prick of a pin. All the muscles within the paralyzed area contracted from peripheral irritation. No zone of partial anæsthesia could be determined. Stroking the side of the abdomen caused retraction of the belly. Patellar reflex and ankle clonus were much increased. Tickling the soles of the feet caused flexion of the toes. Tickling the skin of the gluteal region caused dimpling of the ham and contractions about the anus. The above symptoms were not affected by strong extension and counter-extension. All the paralyzed muscles reacted well to the Faradic current.

My diagnosis was pressure on the spinal cord at the ninth dorsal vertebra (the level of complete anæsthesia), or at the seventh dorsal (the apex of the angular curvature).

June 11th.—Dr. Josephi saw her with me in consultation in the capacity of neurologist. He concurred with me in my conclusions, and also that a surgical operation was indicated to relieve the pressure of the spinal cord.

June 12th.—I fitted a turtle shell of plaster of Paris to her back, to be used as a splint after the operation.

June 13th.—Assisted by Drs. Josephi and Bell, and the house staff of the hospital, I operated. After rendering the field of operation, and everything to be used in the operation aseptic, I made an incision on the right side of the spine, extending from the sixth to the tenth dorsal vertebra, and down to the laminæ. I then cut off, with strong bone forceps, the spines of the sixth, seventh,

eighth, and ninth dorsal vertebræ and cleared away the muscles from the arches. The oozing of blood was troublesome, and much time was consumed in stopping it. I removed with rongeurs the laminæ of the ninth and eighth, exposing the dura, which was full and round, but did not pulsate. The body of the seventh was displaced backward about one-fourth inch. At the level of the eighth dorsal the dura was covered by a soft membrane adherent to the vertebra but not to the dura. Its thickness was not sufficient to cause compression of the cord. When the lamina of the eighth was removed the end of the tumor came into view, lying on the cord. The laminæ of the sixth and seventh were then removed. The tumor extended to the fifth, gradually thinning down to the thickness of a membrane. It bulged strongly through the opening in the bones, showing that the pressure was very great. The tumor was loosely connected to the dura below, and was easily separated for about one-half inch, when it became closely adherent. It was soft, and during removal was torn, and a few drops of thick yellow fluid, like that which comes from a degenerated but not inflamed lymphatic gland, oozed from it. This tumor overlaid the cord for an inch and a half, and passed around above to the right side and front of cord. At its thickest part it was the size of the index finger. There was quite a large excavation in the bodies of the vertebræ to accommodate it. The patient's condition at this stage became critical, and the operation was hastily concluded. Four or five cat-gut sutures united the planes of fascia, leaving wide gaps for drainage. Other cat-gut sutures brought the skin together within one-fourth inch. Still other cat-gut sutures were introduced in the skin, and left to be tied at the first dressing.

For forty-eight hours after the operation her condition was critical. Her pulse ranged from 140 to 146, and vomiting was persistent. After this she slowly rallied. The first dressing was delayed till the fourth day on account of her condition. Healing went forward without suppuration and was complete by July 5th.

On the ninth day after the operation there was some indication of returning sensation, especially in the right limb. On the twenty-first day she could feel a pin prick everywhere on the right side. On the left side sensation had returned on the back and sides of the thigh, and on the back of the leg to a few inches above the knee.

July 6th.—She went home to Eastern Oregon, promising to send me reports from time to time.

August 6th.—She reported by letter that sensation had returned everywhere, and that she could move the big toe and the one next to it on the right foot, and the big toe on the left foot. The reflex contractions continued vigorous.

October 12th.—She could lift the left foot from the floor, the right one could not be moved so well. She said that her condition would remain unchanged for four or five weeks and then improvement would be rapid for a few days, when matters would again remain stationary.

December 8th.—She could stand alone and could run a sewing-machine. January 5, 1892, her husband reported to me in person that sensation was perfect everywhere, that she walked about the house freely on crutches, and that her general health was excellent. She had within a few days improved greatly.

The tumor was never examined microscopically, but was probably tubercular. It sprung from the diseased vertebræ. The sixth, seventh, and eighth dorsal vertebræ were anchylosed, and the body of the seventh in particular was to a great extent absorbed. No carious bone was discovered.

This case shows that the functions of the cord can be restored after having been suspended for a long time by pressure. For more than six months paralysis of motion had been complete below the lesion. It shows, too, that improvement is very slow and progresses for a long time. Seven months have passed since the operation and improvement still goes on. The line of anæsthesia did not truly indicate the level of the lesion. Pressure was very great at the sixth dorsal, yet sensation was unimpaired down to the ninth.

A CASE OF HYPERTROPHIC SCIRRHOSIS OF THE LIVER.

By J. JOSEPH KINDRED, M.D.,

FIRST ASSISTANT-PHYSICIAN AT THE PENNSYLVANIA STATE LUNATIC HOSPITAL, HARRISBURG.

An interesting case of this rather rare disease, accompanied by scirrhosis (atrophic) of the kidneys and fatty degeneration of the heart, came under my observation recently, the chief features of which I submit.

Whether the case to be presented should be considered as one of those rare conditions of alcoholic scirrhosis where the liver remained greatly hypertrophied throughout the course of the disease, or whether it should be more properly considered as "cirrhose hypertrophique avec ictère," described by the French writers as having quite a distinct pathology, was not, after a careful examination of the pathological appearances of the organ, fully determined. The clinical course of the disease, however, certainly belonged more to the latter disease than to ordinary scirrhosis of the liver, as will be seen from the following:

J. W. B——, aged fifty-one; a druggist; married; no history of syphilis; had indulged steadily in alcoholic excesses, but not for fifteen years prior to the appearance of the first symptoms of the disease. About three and a half years previous to the patient's death, the first indications of hepatic trouble were observed. At this time an enlargement in the hepatic area, coincident with jaundice and slight derangement of the digestive tract was noticed. The enlargement increased rather rapidly, examination from time to time showing dulness over the greater portion of the abdomen with the exception of the left iliac region.

No roughened surface, but a large, smooth-feeling tumor, extending uniformly over the abdomen, was revealed by repeated palpation.

The spleen was found enlarged, and greatly so just before death.

Involvement of the kidneys being suspected also, the urine was examined and albumin found in large quantities.

There was not at any time in the course of the disease evidence of ascitic effusion, which would naturally be looked for in ordinary scirrhosis. The icterus was not marked for some time previous to death.

Anæmia, languor, weakness, derangements of the digestive tract, and the usual nervous symptoms became more and more troublesome, and the patient finally succumbed three years and a half after the initial symptoms appeared.

The clinical points here suggesting the differential diagnosis of hypertrophic scirrhosis from the ordinary scirrhosis of Laennec, were the more or less marked persistence of the icterus throughout the greater part of the disease, the great enlargement of the spleen, and the absence of ascitic effusion from the first to the last; while the even surface and uniform enlargement of the organ excluded enlargement due to echinococcus, carcinoma, and other new growths.

It will thus be seen that the whole clinical history was, as has been stated, in accord with that of "cirrhose hypertrophique avec ictère," but that the pathological findings of the following post-mortem examination did not decide that the disease had not been at some previous transitional stage of its pathology the ordinary alcoholic scirrhosis.

The liver was found to occupy the greater part of the abdominal cavity, and to press upward about three inches above its normal level and against surrounding viscera. Its weight was seven and one-half pounds. It was some-

what glistening in appearance, quite smooth as to its surface and unusually firm in consistency, giving on section a sensation of cutting through cartilage.

The gall-bladder was quite small and contained very little bile, that being thickened or inspissated.

The cut surfaces showed little yellowish areas of liver parenchyma, between which were masses of connective tissue, which on being more minutely examined showed that the bands of connective tissue were quite uniformly distributed, and that the lobular markings were here and there indistinct. There was found no evidence to sustain the rather hypothetical claim that this form of scirrhosis begins as an inflammation of the interlobular bile-ducts and extends to the surrounding connective tissue.

The spleen was more than twice its normal size, brittle, and extremely congested, appearing as if it had been the seat of recent capillary hemorrhage.

The kidneys were in the pathological state known as small granular kidney or renal scirrhosis.

The heart was quite small, and far advanced in fatty degeneration, with the right ventricle dilated and flabby.

A CASE OF ANOSMIA.

By E. SCHALCK, M.D.,

NEW YORK.

Cases of anosmia, pure and simple, without any visible external changes, are extremely rare; most of those which have been recorded were congenital and were due to the non-development of the olfactory nerves. Bonet [1] and Pressat,[2] at the beginning of this century, reported cases of this sort. Later on in literature Holm [3] mentions two cases of syphilis in which there could be found no pathological change in the nose, and in which the existing anosmia was attributed to changes in the cranium and meninges. There was a case reported by René [4] in which a blow upon the nose caused complete loss of smell, the sense of taste not being impaired. Mackenzie [5] mentions also a pure case of anosmia. A physician was thrown out of his buggy and the fall stunned him. Having regained consciousness, he discovered that he had lost his sense of smell. Some cases of similar nature were reported by Notta.[6]

All others, so far reported, were not pure. They were either unilateral, or combined with paralysis of the facial nerve. Optic neuritis, polypi, tumor of the brain, caries at the base of the cranium, and hysteria, are generally complicating or causing the disease.

I shall now mention a case which came under my observation, and which serves to illustrate plainly the mechanism of an injury that resulted in anosmia. Mr. K——, thirty-eight years of age, a carpenter by trade, one night on coming home fell downstairs. Toward morning he was found unconscious, lying at the foot of the stairs. When I saw him in the morning, he was still in a somnolent condition. There was profuse perspiration, the temperature was normal, pulse slow, respiration distinctly lessened and of a Cheyne-Stokes character. Pupils, of equal size, reacted normally. There had been some oozing of blood from the mouth, but not from nose or ears. Loud calling aroused him so that he would open his eyes, but he would instantly fall back in his former condition. In the region of the occipital protuberance there was a scalp wound about two inches in length, which subsequently healed by primary union. This condition of semi-coma lasted about forty-eight hours, when he suddenly awoke without recollecting anything of what had happened.

Total anosmia was the permanent result of this fall; his sense of taste was not impaired, and there was and is not now any paræsthesia or anæsthesia of any kind. This case illustrates very well the action of contre coup. There were present all the symptoms of concussion of the brain, not those of fracture of the skull. The original point of injury was the occipital protuberance, the point where it showed its deleterious effects exactly opposite, that is, in the olfactory nerves.

It is probably of interest to know how this anosmia manifested itself. The patient did not complain first of his loss of smell, of which he was unaware, but of a loss of appetite; everything seemed to him to taste alike, and he could not enjoy his meals. I must yet mention that this anosmia has remained unchanged for many months up to date.

Too little attention is paid to the hygienic reports of this affection. A man without the sense of smell, in our era of gaslight, is in constant danger of losing his life, for it is only by this sense that he is warned of the presence of many deadly gases in the atmosphere.

Also, an already existing form of disease can be influenced by anosmia in a high degree. All patients suffering from anosmia complain of loss of appetite, and of what consequence this condition, in a case of tuberculosis or other constitutional disease, wherein the feeding of the patient is of such importance, may be, every physician knows. Two further cases of anosmia are instructive in this regard, although etiologically offering nothing particular, as one was due to polypi of the nose and the other to atrophy of the turbinated bones. The first case was that of a man, forty years of age, who suffered from anosmia for seven years. He only complained of loss of appetite, which after removal of a number of polypi returned, and he gained considerably in weight in a few weeks. The second case was that of a woman, thirty-six years of age, of tubercular diathesis, with a pleuritic exudate in the right pleura, who showed marked improvement after her atrophic rhinitis, of which she also suffered, was treated and her sense of smell had been restored.

[1] Bonet: Sepulchretum Genevæ, 1770, t. i., p. 441 et seq.
[2] Pressat: Obs. d'un Cas d'Absence du Nerf olfactif, Thèse de Paris, December 18, 1837.
[3] Holm: Kopenhagen Hospital Tidende, July 7, 1886.
[4] René: Gazette des Hôpitaux, July 31, 1890.
[5] Mackenzie: A Manual of Diseases of Throat and Nose, vol. ii., p. 464.
[6] Notta: Archiv. Gén., 1870, t. i., p. 385 et seq.

COMPLETE ABSENCE OF URETHRA; OPERATION AND CURE.

By C. H. VOORHIES, M.D.,

WICHITA FALLS, TEX.

Mrs. L——, married, gave birth to a male child on October 9, 1891. The child was to all appearance healthy, robust, and perfectly formed. Thirteen hours after birth it was discovered by the nurse that the child had passed no urine. The father was immediately sent after the doctor, who upon examination found the child had a malformed penis with no opening to the bladder. The doctor and nurse attempted an operation, but failed. I was immediately sent for, and assisted Dr. Burnside in making one. A tenotome was used, which, beginning at the meatus, was directed downward and inward to a point beyond where the ejaculatory ducts should open into the urethra, before we struck any canal. We then passed a probe through the opening into the bladder, and relieved the little one of the accumulated urine. For several days afterward the small probe was passed, and soon the child was able to void its urine alone, and is now a stout, fat, and well-developed baby.

The child's penis at birth presented the appearance of one who had been circumcised or operated upon for phimosis. It was about one inch in length; the foreskin drawn back and notched upon the top. The glands and testicles were well formed and healthy in appearance.

The question now presents itself, Will this child (when grown to manhood) be able to beget children? Will nature restore the opening of the ejaculatory ducts into the canal made by human hands?

If any of the readers of this article have seen such a case as this, I would be glad to have them communicate with me, as I have been unable to find such a one on record.

Progress of Medical Science.

Onanism Cured by Hypnotic Suggestion.—Dr. Bernheimer (*Revue de l'Hypnotisme*) relates an instance of cure of the habit of onanism, after the first *séance*, in a boy eight years of age, who had practised the vice for three years, and at the time hypnotic treatment was instituted admitted that he gave way to his desires as often as three or four times each night and two or three times a day. All other treatment, such as bromide of camphor, bromide of potassium, restraining apparatus, baths, special diet, intimidation, threats, etc., had failed. Suggestion during hypnotic sleep was repeated daily for a fortnight, the suggestion being that he would never again have an idea of touching himself either by day or during sleep at night, and that he would, henceforth, be strong enough to resist all temptation. From the first day there was marked general improvement, gain in weight, and entire freedom from the habit. Suggestion does not consist in an order not to do a thing, but in the confidence given to the child. It is the idea put into his brain that he would no longer succumb to the impulse.

Anuria of Scarlatinal Nephritis.—Dr. Starr recommends the following mixture:

℞. Ext. jaborandi fld ..... 15 gm.
Potass. citrat..... 25 "
Aquæ dest..... 75 "
M. Sig.: Teaspoonful every four hours.

Acute Gonorrhœal Cystitis.—Dr. Wickham recommends oil of sandal-wood in acute cystitis of blennorrhœal origin, giving sixteen capsules in the twenty-four hours, each containing about six drops (forty ctgr.) of the fluid. This also has a very beneficial action on hæmaturia. Other balsamics have been found only to irritate and aggravate the symptoms in gonorrhœal cystitis. The action upon the mucous membrane of the stomach is a stimulating one, which permits of suitable diet. Horteloup is given credit for the method, which usually renders instillations of nitrate of silver uncalled for.—*Union Médicale*, No. 145, 1891.

Inoculation of Chancroid.—Dr. Coignet formulates the following practical rules: The pricked point should be small and superficial, so as to avoid as much as possible implication of the deep skin. It should be as far away from the genital region as possible. If by the day after inoculation there is not the least inflammatory areola, you can say at once that nothing will come of it. If there is a slight inflammatory zone, it is impossible to say till perhaps some days have elapsed. If, however, by the day after inoculation there is a well-formed pustule, with greatly inflamed peripheric zone, the result can be put down as positive. In this case it is useless to wait longer and the ulceration should be destroyed at once, before it has a chance to spread.—*Lyon Médical.*

Identity of Variola and Vaccinia.—Dr. Fischer inoculated two calves with the pus from small-pox, obtaining in each instance typical symptoms of cow-pox. The lymph from those calves was passed through twelve others, and a part of it through three others, and was then used for vaccinating children. Normal and mild vaccinia followed in all those who had not previously been vaccinated.—*Fortschritte der Medicin*, ix., 13.

Phosphorus in Rachitis.—Mettenheimer proposes the following formula, which he considers superior to that of Kassowitz (phosphorus, one ctgr. in one hundred gm. of almond oil):

℞. Phosphorus..... 0.01 ctgr.
Ol. amygd. dulc..... 0.30 gm.
Pulv. sacch. alb.,
Pulv. gummi arab.....āā 0.15 gm.
Aq. dest..... 0.40 gm.
M. Sig.: Teaspoonful at dose.

—*Nouveaux Remèdes.*

Antigalactagogue Action of Antipyrin.—Guibert has found that the lacteal secretion can be completely suppressed in from two to six days by antipyrin in daily dose of thirty grains or more, given in divided portions every two hours. After thus employing antipyrin in nineteen cases, it is regarded as harmless and of real service, where it is desired to suppress the milk secretion.—*Le Practicien.*

Thilanine is a lanolin derivative which Siebels has obtained by acting upon lanolin with sulphur. This chemical compound contains three per cent. of sulphur. It has been employed by Dr. Saalfeld in several varieties of skin disease, and has been found devoid of irritating effect, and is useful in moist eczema, sycosis, acne, rosacea, etc. —*La Semaine Médicale.*

Influenza Colds.—Few remedies are more reliable, and act better as a preventive, or lessen the distressing symptoms of an influenza cold, than the following mixture:

℞. Sodii salicylas..... ʒ jss.
Liq. ammon. acet..... ʒ ij.
Aq. camph..... .....ad ℥ vj.
M. Capt.: ℥ ss. omnis 3tiis horis.

If this be taken every two or three hours when the first symptoms of cold come on, it will usually ward off the attack.—*British and Colonial Druggist.*

Acute Oöphoritis Complicating Pregnancy.—Dr. Coe, writing on this subject in the *American Gynecological Journal*, December, 1891, gives several instances of such complication and says: "In a patient with a history of previous acute oöphoritis and peri-oöphoritis, whether occurring before or during pregnancy, apprehension must be felt as to the possibility of a recurrence of the former inflammation after delivery. Labor should be conducted with rigid aseptic precautions, and with the least possible amount of interference; rough manipulation of the fundus uteri, as in expression of the placenta, is especially to be avoided."

Permanganate of Potash has been found by Dr. Bokai to be the best antidote for phosphorus poisoning. A solution containing from two to five parts to the thousand is said to be well tolerated by the stomach.—*Gaz. Méd. de Liège.*

Treatment of Scabies.—Kaposi recommends the following plan of treatment, which has been successfully carried out for ten years in the Vienna Clinic, in about five hundred patients each year:

℞. Florum sulph.,
Ol. fagi.....āā 20.0
Sap. vir.,
Axung. porci.....āā 40.0
Cret. alb. pulv..... 5.0
M. Sig.: Apply once without previous bath and wrap patient in woollen blanket.

In private practice the patient can put on a suit of tight-fitting woollen underwear and go about. Wool has the advantage over linen that it does not soak up the ointment, but leaves it in contact with the body. A bath is to be taken only after the skin has begun to peel. A bath before the ointment makes the skin unnecessarily liable to irritation.—*Deutsche Medizinische Zeitung.*

Temperance and the Longevity of Clergymen.—It is satisfactory to know, on the authority of Dr. Drysdale, that the mortality of the clergy of the Established Church of England has fallen greatly since the spread of the temperance movement among them. Whereas between 1861 and 1871 the mortality of the clergy between the ages of twenty-five and forty-five was 5.96 per 1,000, it fell between 1880–82 to 4.64 per 1,000. The question may be raised whether this apparent lessened mortality among clergymen may not be evidence of the universal fall in the death-rate during recent years, of which the apostles of sanitation claim the credit.—*Hospital Gazette.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE SEQUELÆ OF INFLUENZA.

Now that we have passed through three winters of *la grippe* we are in a position to formulate some ideas as to the more remote effects for which the disease can be held accountable.

It would appear from contemporary literature that no organ of the body is exempt from the possible after-effects of an attack of influenza, and while there is undoubtedly a tendency to attribute any unusual symptom showing itself in a patient who has suffered from the epidemic disease to its influence, still there have been observed sufficient well-defined sequelæ to make an interesting and instructive chapter. Althaus thinks that the *materies morbi* of influenza resembles that of syphilis in its effects upon the nervous system after the actual attack is over. Sansom has also found that it is especially upon the nervous system that the virus of influenza acts, and, in an article appearing in the *Lancet* of January 2d, treats at some length of the various painful affections which he has found to follow an attack of the grip. In his cases the pains were localized chiefly in the epigastrium, head, region of heart, and extremities. The attacks were frequently nocturnal and often very severe. Several instances simulated angina pectoris, one patient described his pain as a "grip" or "screw" at the heart. Dyspnœa also occurred independently of exertion. Aching in the arms, calves, thighs, etc., chiefly at night, was frequently complained of.

In regard to the visceral neuralgia, there are signs of localization and, in some instances, of local tenderness that point to a local cause, and it seems probable to the writer that in some such the sympathetic fibres and ganglia are alone affected. In other cases there seems to exist a form of neuritis analogous to that caused by many other toxines. The conclusion reached is that these remote consequences of influenza are due to the proximate cause of a peripheral neuritis affecting the sympathetic ganglia and nerves, the vagus, and the sensori-motor nerve trunks.

In an excellent article on the nervous and mental phenomena of influenza by Dr. Mills, published in the *Medical News*, January 30, 1892, neurasthenia due in part to cardiac weakness is mentioned as one of the after-effects frequently noted. The cases are distinctly of the melancholic type, no ordinary amount of work can be endured, and the subjects are weak, worrisome, and unrecuperative. The order of frequency of organic nervous diseases left in the wake of the epidemic as observed by this author is: neuritis, meningitis, myelitis, and cerebritis. Almost every variety of neuritis has been observed, and multiple neuritis while not common has not been rare. Isolated neuritis of almost every cranial nerve has been recorded, with resulting optic atrophy, loss of smell and taste, ophthalmoplegias, oculo-motor, facial, and bulbar or pseudo-bulbor palsies.

"Distinctively neuralgic pains," the author says, "are probably due to toxæmically depressed or exhausted sensory nerve-roots or centres in the cord and bulb."

One striking example of bulbar paralysis was seen. Meningitis is comparatively rare, and reports of cases can be accepted only when confirmed by autopsy or made by reliable observers. Persistent pain in the head, often diagnosed chronic meningitis, the author believes to be more generally neurotic than meningeal. Convulsions, hystero epilepsy, chronic torticollis and facial paralysis are other nervous manifestations observed.

The subject of insanity following influenza has been widely discussed. Lelady believes the rôle of influenza in its causation may be predisposing or exciting, but in all cases there must be acquired or inherited predisposition. The onset is often sudden; cure depends rather on general conditions and there is no special indication in treatment. The commonest type is stated by Mills to be a form of melancholia not infrequently assuming the form of melancholia agitata. "The patients are intensely depressed and emotional; they are filled with apprehensions of disgrace and ruin, they are suspicious and delusional with reference to those surrounding them; they are frequently unwilling to eat, or to rest, or to take medicine, and in some cases they have definite delusions of terrible character, for the most part hypochondriac or religious. They are frequently plagued with the thought of suicide, and sometimes make suicidal attempts."

One of the most frequent complications, according to the report of Dr. Krannhals on the epidemic in Riga, is otitis media. Out of seventy-three ear affections following an attack, fifteen were of catarrhal otitis media, and thirty-eight purulent. Autopsies were made on five cases of purulent meningitis which were neither of tubercular nor traumatic nature, and among the rare complications are recorded four instances of abscess of the liver.

Jansen observed over a hundred cases of otitis at the university clinic in Berlin. No perforation occurred in one-seventh of the cases. Twice the mastoid process was affected. Gangrene of the foot has been reported by Johannsen in a patient fifty-two years of age, and severe phlegmasia alba dolens in a girl of fifteen, both as the result of influenza.

Gottschalk has noted the frequency of endometritis associated with free hemorrhage and he thinks the influenza virus may directly attack the pelvic connective tissue. These are by no means all the complications and sequelæ which have been thought to belong to the influenza, still they serve to keep us reminded that with the wane of the epidemic we may encounter conditions not readily explained until we go back in the history to the time of the acute attacks.

THE MODE OF ACTION OF GUAIACOL IN TUBERCULOSIS.

ALTHOUGH many writers are in accord concerning the benefit to be derived from the use of guaiacol in tuberculosis, there is a very evident want of agreement as to the manner in which this favorable effect is produced. While some have thought that the drug possesses a true specific action, destroying the tubercle bacilli in the tissues just as it does in test-tube cultures, others have maintained that it is nothing more than a good tonic, stimulating the secretion of gastric juice, and thereby aiding digestion and promoting more perfect nutrition. This second hypothesis can hardly be maintained, however, since guaiacol carbonate, which is said to act equally as well as the uncombined drug, is non-irritating and tasteless, and probably passes unchanged through the stomach without exciting any increased secretion of the gastric juice. The first supposition is equally untenable, according to Drs. Hölscher and Seifert, who have found (*Berliner klinische Wochenschrift*, January 18, 1892) that guaiacol does not circulate as such in the blood, but that it forms a new combination, the exact nature of which has not hitherto been well understood, which exerts no poisonous effect whatever upon the tubercle bacillus. How, then, is the beneficial therapeutic action of the drug in tuberculosis brought about?

As we have just said, Drs. Hölscher and Seifert have shown that guaiacol was found in the blood in a state of combination. Now the albuminoids are, of all the constituents of the blood, the most prone to enter into combination with foreign substances, and as guaiacol is excreted in the form of a sulphate, they concluded that the drug combines with the blood-serum by means of the sulphur which the latter contains. But the blood of a phthisical person contains, besides the normal albuminoids, others formed through the agency of the bacilli. These latter albuminoids are very unstable and are prone to undergo chemical change whereby they became poisonous. It is the presence of these toxic albuminoids that gives rise to the constitutional symptoms of tuberculosis, anorexia, fever, night-sweats, etc. But they are much less stable than the normal albuminoids and combine more readily with guaiacol and certain other substances introduced into the circulation, forming with them harmless compounds. Thus it is, they hold, that an amelioration of the general condition follows as promptly upon the administration of this drug in the case of pulmonary tuberculosis. The guaiacol does not act upon the bacilli at all, but simply renders harmless the toxines elaborated by them. The local pulmonary process is not influenced directly by the drug, but the constitutional disturbance is removed, the fever subsides, the night-sweats cease, the appetite returns, the digestion is improved, and health is restored. Thus the organism is strengthened and is enabled to cope successfully with the bacillary invasion if the latter be not already too far advanced.

The greater the amount of the remedy which is introduced into the system, the more completely are the toxines destroyed, hence large doses are advisable. And as the authors have shown in a previous communication that guaiacol carbonate is better tolerated than the pure drug, it is this form that they recommend for administration in the treatment of pulmonary tuberculosis.

It is very probable that this is the way we shall ever be forced to contend against this and many other forms of bacillary disease. The attempt to destroy the microorganism by poisons introduced into the system must be futile, from the impossibility of introducing an effective amount without prejudice to the life of the individual. But by rendering the bacillary products innocuous we can lighten the labors of the organism, free it from the crippling effects of these toxines, and so leave it free to contest with and overcome the bacilli. That the healthy organism can in most cases do this successfully is a matter of every-day experience, otherwise men were extinct ages ago.

ADVANCES IN PHYSIOLOGICAL CHEMISTRY.

THE progress of physiology and physiological chemistry gives every now and then a sharp turn to our methods of viewing and treating disease. Thus, for example, in times past the profession has starved fevers, then it has fed fevers, now it is inclined to water them.

Perhaps in no direction have medical views changed more than in regard to the dieting and feeding of the sick and to the medication of nutritional disorders. For two decades a vast deal of attention has been paid to the subject of making things easy for the stomach. Pepsin, ptyalin, trysin, peptones, peptonic pills, digested and half digested milk and beef have been prescribed in enormous amounts, and no doubt with some benefit.

But there is a possibility that too much of this sort of thing is done, and that much of the supposed help to digestion given by prepared foods is fanciful. It has been demonstrated beyond any doubt that albumin is absorbed from the rectum and stomach without first being changed into peptone. It is known that the peptones must be changed into serum-albumin before they enter the blood, and finally there is good ground for believing that all the proteid matter which is used in the building up and repair of tissues comes from albumins which escape being converted into peptone in the alimentary tract. Peptone supplies force, unchanged proteids supply tissue.

A good deal of medication has been based on the supposed fact that the secretions of the intestinal tract are alkaline. The studies of Macfayden, Woricki, and Sieber show that this is not entirely true, for the secretion, as found in the lower part of the small intestine, is uniformly acid.

A very important and dominant idea in practical medicine is that the tissue changes of nutrition and function are chiefly oxydations. Hence we insist on fresh air, exercise, and abundant supplies of oxygen. But it is known that synthetic processes also occur in the processes of digestion and absorption as well as in tissue-making. In digestion, for example, hydration is an important factor, and in the absorption of fats there is a synthesis of fatty acids and glycerine, so that as a result neutral fats alone enter the lymph. The investigations of chemists have also shown that the liver-cells do synthetical or constructive as well as oxydizing work. The old view of Liebig, that our bodies are mainly furnaces, is not, therefore, strictly true, and we are learning to-day that rest is as

important as exercise in securing improvement in nutritive functions.

These views, which are in part suggested by an able address of Dr. V. C. Vaughn, of recent progress in physiological chemistry, show that certainty has not yet been reached in our knowledge of diet, digestion, and nutrition, and that the modern physician must keep ever alert to the progress made in the physiology and chemistry of the human body.

REGULATING PRESCRIPTION PADS.

THE present legislature of New York promises to do some very remarkable things, but nothing could be much more astounding than the project recently inaugurated by Assemblyman Walter G. Byrne, of this city. The statesman in question has introduced a bill proposing to make it compulsory for physicians to use for their prescriptions blank forms to be supplied by the health authorities. These blanks are to have stubs upon which the physician must write a copy of his prescription. The regulation is to apply, for some reason, only to persons practising medicine, surgery, and dentistry in cities of over one hundred and fifty thousand inhabitants.

The objects of the bill are, we take it, to prevent mistakes in prescription-writing and prevent prescribing by others than licensed medical men. Such objects are undoubtedly laudable, but the plan devised is unjust, unreasonable, burdensome, and impracticable to the point of ludicrousness. We do not see why a physician practising in a town of 50,000 inhabitants is not just as liable as any one else to require the official blanks.

In case of an emergency, when, as might often happen, the doctor had no prescription pad, the results would be most serious.

Apart from this it is manifestly impossible for the law to be enforced, without a systematic inspection of all drug stores. Even then the law could and would be evaded in many ways. If any law so monstrous were really enacted, probably the first result would be to make physicians deal out their own drugs. This would be disastrous to the drug business, inconvenient to physicians, and often harmful to patients.

In fact, the proposed law is in every way so absurd and obnoxious that it seems impossible that it should be considered seriously.

Yet, when legislatures pass laws regulating physicians' fees, forbidding intoxication, and putting various other paternal limitations on personal liberty, it is difficult to know what to expect. We trust that our State Medical Society will look after Statesman Byrne.

MARRIAGE AND THE TRIPPER FADEN.

No pathogenic germ has given rise to more discussion than that of gonorrhœa. It is at present still denied by many genito-urinary specialists that it is always present in specific urethritis or is always the cause of the disease. There is still greater doubt and uncertainty as to the contagiousness of chronic urethral discharges. On the whole there seems to be a tendency to adopt in a measure the view promulgated many years ago by Noeggerath, that many of the pelvic troubles of women were caused by them. Sänger states that about one-ninth of all gynecological diseases are the result of gonorrhœal infection. Finger asserts, regarding marriage, that it should be absolutely prohibited in all cases where the existence of a chronic urethritis is evidenced by the presence of the "morning drop" or tripper faden in the urine, until the following facts have been established:

1st. That after from two to four weeks of daily observation, the secretions from the urethra are found to be free from pus and made up wholly of epithelial cells.

2d. That no gonococci can be detected by the microscope, even after a purulent discharge has been established by the employment of irritating injections of corrosive sublimate or nitrate of silver; and,

3d. That neither prostatitis nor stricture exists.

In an article on this subject by Dr. George E. Brewer (*Journal of Cutaneous and Genito-Urinary Diseases*) much the same doctrine is advocated. Dr. Brewer cites the case of a young man who had had an attack of gonorrhœa six years previous, and who for three years had had no urethral discharge. On examination of the urine, however, the tripper faden were found, and in these gonococci were seen. Against medical advice the patient married and his wife speedily developed a severe gonorrhœa. The possibility of a recent infection of the man was excluded. The case is rare, but is not an isolated one, and it seems to show that a person who has tripper faden containing gonococci should not marry until the morbid condition is relieved.

CONDITIONS OF CURE IN CONSUMPTION.

IN a paper read at the Medical Society of London by Dr. Yeo and published in the *British Medical Journal*, January 16, 1892. The author in discussing the conditions under which phthisis is curable, stated that only a few weeks before Koch's announcement of his discovery, he had made the remark in one of the London Medical Societies that if a perfectly certain cure for tuberculosis were at any moment to be discovered it would leave the majority of the then existing cases of consumption incurable, because the conditions of cure no longer exist. In other words, if we are able to heat the patient before his pulmonary tuberculosis has developed into phthisis, we may hope to contribute to bringing about the same arrest and cure as is at times found in the post-mortem examination to have taken place perhaps spontaneously.

All of our efforts, the author says, should be directed to the diagnosis of the "occult stage" or stage of "germination," and he considers a diagnosis possible to the extent of probability while not to the extent of certainty. As regards the clinical recognition of this early condition, Professor Grancher is quoted in the following words:

"In an individual, suspected or not of tuberculosis, a few tubercles begin to develop slowly; embryonic cells and giant cells form and group themselves together, so as to constitute the follicular tubercle—that process lasts a long time and is silent—and nothing appears changed in the health of the man doomed to phthisis; sometimes a little anæmia, a little debility, a slight cough, a little quickened respiration—nothing more."

The author is disposed to consider the early occurrence of hæmoptysis as a condition favorable to the cure of

phthisis because it calls attention to an early stage which might otherwise pass unobserved.

Another condition favorable to cure is the absence of marked hereditary predisposition in accidental infection of robust individuals. A mitigated virulence of the bacillary infecting agent is looked upon as another possible influencing condition, as also a small number of bacilli originally gaining access to the lungs and the channels through which this access is accomplished.

A most essential condition of cure is that of a "sound organic state and a sustained functional activity of the organs of digestion and assimilation. Food should be given in such form as to insure methodic alimentation and indeed hypernutrition.

A dry aseptic atmosphere especially favors the arrest of pulmonary tuberculosis, but the cold Sanatoria in the Swiss Alps the author has found by no means always unirritating. Life in the open air of country or sea with continuous and strict attention to the minute details of daily life are conditions not to be neglected.

Repeated and continuous counter-irritation, antiseptic inhalations, and the internal use of such antiseptics as creosote or guaiacol, are recommended, but that any remedy may cure or contribute to the cure the conditions which make a cure possible must exist.

News of the Week.

Dr. Lewis A. Sayre's Birthday occurred on February 29th, and consequently he has but one every four years. Now that the secret is out, we are not surprised that he is still so young, alert, and full of ardor. Many happy returns. All of his numerous friends, here and abroad, will join with the rector of Grace Church in tendering him their best wishes as expressed in the following charming sentiment:

"GRACE CHURCH RECTORY,
"NEW YORK, February 29, 1892.

"DEAR DR. SAYRE:

"And is it true,
That Nature set her clock for you
Some four-and-fifty years too slow?
How clever of her to foreknow
That you would keep yourself so young,
So firm of heart, so sound of lung,
That she would never be detected,
Nor you so much as once suspected
Of being older by a day
Than leap-year records seem to say!
Eighteen, dear friend, or seventy-two,
Which 'ere it be, good luck to you.

"WILLIAM R. HUNTINGTON."

St. John's Guild.—The twenty-fifth annual report of this association has been published. During the past summer the floating hospital made five trips a week from July 1st to September 3d, or thirty-two in all, four having been omitted on account of stormy weather. On those trips a total of 28,664 children and mothers were carried, at a cost of a little over twenty-six cents each. The seaside hospital on Staten Island was open from July 8th to September 3d, during which time 1,067 patients were received, of which number 384 were mothers and 683 children. The cost of caring for these averaged $3.37½ each per week. The Guild is in need of funds for the continuance of its work the coming summer, and also for the support of the children's hospitals throughout the year. The work of the Guild in saving the lives of children during the heated summer term is most real, and cannot be too highly commended, and it is deserving of liberal support and encouragement.

French Congress of Surgery.—The Surgical Congress of 1892 will be opened in Paris, at the Faculty of Medicine, on Monday, April 18th, under the presidency of Professor Demons, of Bordeaux. The first sitting will be held at 9 A.M., and is to be devoted to the discussion of general questions, but the formal inauguration of the Congress will take place at 2 P.M. The following questions have been placed on the agenda for discussion: 1, The pathology and treatment of surgical gangrene; 2, the pathology of infectious complications in the surgery of the urinary organs; and 3, surgical operations on the biliary passages, with their immediate and remote results. The morning session will be devoted to general discussion.

Investigating the Keeley "Cure."—New York State has refused to undertake to investigate the Keeley Institute, which has been established in a neighboring county. This is a sensible act. On the old principle of giving the calf enough rope, we believe that the "Institute" will work out its own end.

The Medical Society of the Missouri Valley will hold its next annual meeting in Leavenworth, Kan., March 17th and 18th next. The titles of papers to be read should have been sent to the Secretary, Dr. F. S. Thomas, before March 1st. The fee for this meeting is $2.

The Tennessee State Medical Society will hold its annual session for 1892 in Knoxville, beginning April 12th—the second Tuesday of that month. The Secretary, Dr. D. E. Nelson, of Chattanooga, Tenn., will furnish additional information on application. An excellent session is anticipated.

The Executioner of England, who has hung two hundred criminals in his day, has resigned and is going on a lecturing tour. He will advocate the abolition of capital punishment.

New Buildings for the Jefferson Medical College of Philadelphia.—The Board of Trustees and the Faculty of the Jefferson Medical College have just completed the purchase of two large lots on Broad Street, giving them a frontage of about three hundred feet and a depth of one hundred and fifty feet, upon which they will proceed to erect at once a handsome hospital, lecture-hall, and laboratory building. The estimated cost of the buildings is $500,000.

The New York Pasteur Institute.—Dr. Paul Gibier, of the New York Pasteur Institute, states that he contemplates closing the Institute, because, instead of receiving encouragement, he had been cheated out of the money he had earned.

The Function of the Supra-renal Bodies.—According to MM. Langlois and Abelons, who, at a recent meeting of the Biological Society, brought forward the results of

their further researches on the function of these physiologically little known organs, the destruction of one supra-renal body does not entail death, while the removal of both invariably does, accompanied by all the phenomena described by Brown-Séquard, paralysis of the respiratory muscles, etc. This paralysis they found to affect the terminal nerve-plates in the muscles. At the moment of death, and a little before, the sciatic and phrenic are absolutely inexcitable, although the muscles supplied by these nerves in part respond to stimulation. The blood of guinea pigs on which the observations were made caused, when injected under the skin of the frog, phenomena analogous to curarization, and MM. Langlois and Abelons incline to the belief that a chief function of the supra-renal capsules is to destroy or neutralize some such poisonous substance engendered by the organism.—*British Medical Journal.*

The Kansas State Medical Society will meet in Fort Scott, May 3, 1892.

The Deaf Veterans.—There are 5,389 deaf soldiers on the pension list, and of these 1,260 are totally deaf. For total deafness a pension of $30 a month is granted, and for deafness approximating total, $27. This is not considered enough, by the veterans.

A Bill to Prevent Public Demonstrations of Hypnotism.—The following bill has been drafted by the Buffalo *Enquirer* and presented to the State Legislature :

An act to prohibit public exhibition of hypnotic experiments and to prohibit hypnotic treatment by anyone except duly licensed physicians.

The people of the State of New York represented in Senate and Assembly do enact as follows :

SECTION 1. It shall be unlawful for any person except duly licensed physicians, in the course of lectures to medical students or before scientific bodies, to give exhibitions of or perform hypnotic demonstrations in public.

SECTION 2. It shall be unlawful for any person not a duly licensed physician to hypnotize another.

SECTION 3. Any person violating either of the foregoing provisions of this act shall be guilty of a misdemeanor.

SECTION 4. This act shall take effect immediately.

New Journals.—*The National Medical Review* is the name of a new monthly published at Washington, D. C., and edited by Dr. Charles H. Stowell. It is for the busy practitioner, and is all written by the editor. The *Hot Springs Medical Journal* is also a monthly, edited by Drs. J. M. Keller, S. W. Franklin, Thomas E. Holland, and J. C. Minor. We trust it will raise the ethical as well as scientific tone of the resort where it is published. Cremation has an organ in a new journal called *The Urn*, published in this city. We are told that cremation has come to stay, and that drift must yield to push. Sanitation seems to be more popular than medicine in Texas. A new journal called the *Texas Sanitarian* has just appeared. It is published at Austin, and edited by Dr. T. J. Bennett.

Sir Morell Mackenzie was one of the best known and most hated of all the physicians in English society, and although the best known and most hated, he was by a very large circle the best liked of any of the members of his profession. He was a kind-hearted, genial, courageous man, who built up a great practice and was correspondingly disliked by those whom he had distanced in the race. The professional accusation against him was that he was too much of an advertiser—not in the vulgar method of advertising, but by the more astute arts which are familiar to those who are past-masters in the art of pushing themselves. Such, at least, was the kind of scandal that used to be talked by those who hated the successful throat doctor who knew everybody, attended to everything, and succeeded in creating for himself such a position that, when the Emperor Frederick was smitten with his fatal disease, it was to the hands of Sir Morell Mackenzie that the illustrious patient was delivered, with such results as the whole world knows.—*Review of Reviews.*

Darwinism so far a Failure.—Darwinism has a strong foe in Professor Virchow. The following is an extract from his address on the subject delivered before the Anthropological Congress in Vienna: "Since the Darwinian theory of the origin of man made its first victorious mark, twenty years ago, we have sought for the intermediate stages which were supposed to connect man with the apes; the proto man, the *pro anthropos*, is not yet discovered. For anthropological science the *pro anthropos* is even a subject of discussion. At that time in Innspruck the prospect was, apparently, that the course of descent from ape to man would be reconstructed all at once; but now we cannot even prove the descent of the separate races from one another. At this moment we are able to say that among the peoples of antiquity no single one was any nearer to the apes than we are. At this moment I can affirm that there is not upon earth any absolutely unknown race of men. The least known of all are the peoples of the central mountainous district of the Malay Peninsula, but otherwise we know the people of Terra del Fuego quite as well as the Esquimaux, Bashkirs, Polynesians, and Lapps. Nay, we know more of many of these races than we do of certain European tribes; I need only mention the Albanians. Every living race is still human; no single one has yet been found that we can designate as simian or quasi-simian. Even when in certain ones phenomena appear which are characteristic of the apes—*e.g.*, the peculiar ape-like projections of the skull in certain races—still we cannot say that these men are ape-like."

Death of Dr. Lewis Johnston.—The following resolutions were adopted at a meeting of the Cape Breton Medical Society held in February :

Whereas, By the sudden death of Dr. Lewis Johnston, a breach has been created in the membership of this Society and in the ranks of the medical profession of Cape Breton;

Resolved, That we, the members of the Cape Breton Medical Society, in regular session assembled, do now express our great regret at the loss of our professional brother; and that we place on record our profound sense of his great worth as a friend and as a citizen; but more especially as a physician, and as a member and co-worker with us in this Society;

Resolved, further, That our deepest sympathy be extended to the family thus so unexpectedly deprived of its widely respected and distinguished head.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 18, 1892.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Mutilations of the Library.—The Committee on Library reported two mutilations of books, the first to occur in a number of years. It was supposed that persons not members of the Academy must have committed the deed. Members were requested to report any act of the kind which might happen to come under their observation while using the library.

Superior Maxillary Neoplasm Removed by Rouge's Operation; Recurrence.—DR. W. F. CHAPPELL presented the patient, a girl, aged two years and a half. At the age of eight months she fell from her mother's arms to the floor, striking the face. No bruise or abrasion was to be seen, but the child complained of the right side of the nose hurting her. Two weeks later the mother noticed a small swelling over the site of the injury. The lower lid was a little puffed. This increased and the child had hemorrhages from the nostril at intervals during a month. When she came to Dr. Chappell's department of the Manhattan Eye and Ear Hospital the swelling at the right side of the nose was of the size of a hickory-nut, was circumscribed, hard, and pointed. It was seemingly continuous with the nasal bones, but proved to be on the superior maxillary when removed by Rouge's operation. It was a hard, bony mass, of cancerous nature. For a month there was no recurrence, but now it had again attained a very considerable size, encroaching on the orbit and the alveolar process, and markedly disfiguring the face. Abscesses had been opened at the lower lid of the right eye. He asked for advice as to treatment.

A New Snare.—DR. MORRIS J. ASCH exhibited a snare which he had recently perfected. It could be operated by one hand, the loop could be enlarged or diminished while in position, the wire readily disengaged, and a fresh hold taken. The hand and finger motion in using it was like pulling on the trigger in shooting off a pistol.

Case of So-called Laryngeal Vertigo or Laryngeal Epilepsy.—DR. WENDELL C. PHILLIPS reported the case. He said that of the various neuroses of the larynx none were so rare or unique in characteristics as that described as laryngeal vertigo, laryngeal epilepsy, or complete glottic spasm in adults. So few cases of this affection had been reported that it would seem the duty of observers to report such as might come under their care. Lennox Browne was first to mention the disease in any work on diseases of the throat, but it was first described in 1876 by Charcot. Since that time about twenty-five cases in all had been reported.

Dr. Phillips's case occurred in a robust-appearing Englishman, aged fifty; no neurotic family history. His friends called him excitable. For ten years he had been under severe mental strain from business worry. A year ago he had his only attack of articular rheumatism. Never had venereal disease, muscular rheumatism, gout, never used tobacco or snuff, took ale or beer at meals in moderation. July, 1891, he stepped into an open trap, struck on the hip, was badly stunned, but did not lose consciousness. Was in bed eight days, but referred all his symptoms to the hip; no disturbance referable to the head or spine, but was very nervous. Aside from this, had never had any fright, shock, convulsions, or fits. Had never had vertigo in any form, but had had what he called bronchial catarrh for several winters. His attacks of coughing were always accompanied by a profuse discharge of frothy mucus. Physical examination revealed very little except coarse râles. The heart was slightly hypertrophied, and its action weak.

The patient first came under Dr. Phillips's notice December 20, 1891. Three weeks previously he had taken a cold, which had followed about the course of colds of previous years until a week before, when the cough became more violent and paroxysmal. Two days before, during a paroxysm of coughing, he had suddenly, without premonition, fallen to the floor upon his back, entirely losing consciousness. The attack lasted but a few seconds, when he arose, feeling perfectly well, with no pain, no unpleasant feeling. There was no vertigo before or following the attack. The sensation must have been exceedingly pleasurable, for he said: "I felt as though I had been in heaven."

Following this he had an attack nearly every day, some occurring while he was in bed. If standing he invariably fell upon the back, and the attack always came on during a paroxysm of coughing, although not all paroxysms of coughing caused an attack. He did not bite his tongue, foam at the mouth, groan, or shriek; but on several occasions his mouth twitched convulsively during the attack and his eyes remained open. He had in all twenty fits, and one day had five between 3 P.M. and 9 P.M. His wife said he turned blue, and loss of consciousness would last five to fifteen seconds. On two occasions he complained of a sensation of pressure in the arms, and again of "smarting of the brain."

Examination of the air-passages revealed a generally hyperæmic condition, with no specially sensitive areas. There was polypoid degeneration of the middle turbinated bones, and an exostosis of the septum. The uvula had been amputated thirteen years ago. There were no signs of paralysis of the vocal cords.

After about ten days' treatment the attacks entirely disappeared. The treatment has been dietetic, a cathartic, bromide of sodium, and five minim capsules of eucalyptol four times a day. The eucalyptol relieved the cough and profuse discharge in a few days, and to this he attributed the recovery.

Regarding the name to be given the affection, Gray held views opposed to those of Charcot, claimed that it was totally unlike the vertigo of Menière, and called it laryngeal epilepsy. McBride, Russell, Knight, Gleitsmann, and others thought it was due to disturbance of the cerebral circulation. The author thought that absence of vertigo in so many cases would preclude its use as a name for the condition, while the term epilepsy more nearly met the requirements. He suggested the term laryngeal syncope. The pleasurable sensation might be attributed to asphyxia.

The author concluded with remarks on the treatment, and spoke highly of eucalyptol in nasal, laryngeal, and bronchial affections with free discharge. It was superior to the oil of eucalyptus.

DR. D. B. DELAVAN favored the term laryngeal crisis. He had seen two cases, one in the care of Dr. Starr, the other of Dr. F. Tilden Brown. In both there was marked laryngeal congestion and irritation. The attacks came on during violent cough, and were attended by loss of consciousness. Being consulted, he amputated the uvula, treated the pharynx a short time, when recovery took place.

DR. E. D. FISHER said a similar condition was met with in locomotor ataxia, but not oftener than other neuralgic crises. In looking over the history of cases he had found little which would enable one to determine the nature of the affection or seat of its lesion. He was inclined to think it was of cerebral origin, perhaps some affection of the laryngeal cortical centres at the base of the third frontal convolution. It differed from epilepsy in that the latter was very intractable, while most cases like the one reported by Dr. Phillips recovered.

DR. ARMSTRONG said he presented a case of this kind before the Academy in 1879, and took the position that it was due to irritation of the pneumogastric nerve, and not to a cerebral lesion or fulness of the cerebral vessels caused by interrupted respiration.

Another Case.—Dr. James E. Newcomb related a case which he had recently seen but had not yet published. It occurred in a German, a dispensary patient. The attacks were similar to those described by Dr. Phillips, except that there was not complete loss of consciousness. If of epileptic nature, it would be classed as *petit mal*, while Dr. Phillips's would fall under the head *grand mal*. Examination of the throat would bring on prolonged paroxysms of coughing, and a discharge of tenacious mucus from the mouth but not through the nose. There was intense congestion of the throat and enlargement of the tonsils. Local treatment greatly relieved the frequency and severity of the attacks, and he inferred from the fact that the patient ceased his visits and could not be found again that he had entirely recovered.

Case of Stenosis of the Larynx Following Fracture Treated by Intubation.—Dr. C. W. Stimson related the case and exhibited the patient, a man, aged thirty-nine, first seen by him January 24, 1890, when he gave a history that three weeks previously he had fallen a distance of eight feet, striking the throat on a projecting screw. After extracting the screw he suffered from increasing laryngeal dyspnœa, and had extensive emphysema of the upper part of the neck. Suffocation being imminent, a physician performed laryngotomy. Dr. Stimson described the appearance of the larynx as nearly as it could be made out by laryngoscopy in its swollen and distorted condition. The lumen of the larynx was much narrowed, the right side was more encroached upon than the left; there was very little motion; a pendant was seen which looked like the remnants of a vocal cord torn by the screw. While the breathing was interfered with, it was not until some time that laryngeal dyspnœa became so marked that it was deemed necessary to resort to intubation and thus exert continuous pressure against the projecting and narrowing surfaces. The main cause of the stenosis seemed to be the distorted sides of the thyroid. The man's larynx was low, and at the first attempt he was able to introduce only the smaller of the hard-rubber O'Dwyer tubes, but when this was coughed up the following day he without difficulty introduced the tube of middle size. At present the patient was wearing a still larger tube. There had been no return of the dyspnœa. There was still some laryngeal deformity, but less swelling, less hypertrophy, much larger breathing space. The author made some remarks upon the intubation in these cases, and said that it was best to introduce the tube by the aid of the laryngeal mirror, especially if the larynx were low down. Different patients differed greatly in tolerance of the tube.

Discussion on Hypertrophy of the Tonsils.—Dr. Morris J. Asch was requested by Dr. Knight, Chairman of the Section on Rhinology and Laryngology, under whose auspices the meeting was held, to open the discussion on this subject. He treated of it under the heading, "When to Operate and the Method." The character of the trouble was often manifest in the child's physiognomy. The mouth half open, the nostrils dilated, evidence of embarrassed respiration, appearance of stupidity—such were symptoms often observed in marked tonsillar hypertrophy. He believed authorities were agreed that interference with the respiration could bring about arrest of mental as well as of physical development. One principal symptom which had led him to operate was snoring at night. Further, there might be otitis, due to the enlargement of the tonsils; and there was a tendency in these patients to quinsy, due, he thought, to their breathing through the mouth instead of through the nostrils. The patient might also complain of deglutition.

Regarding surgical methods, they consisted to-day chiefly of two, namely, removal by the knife or by the cautery. It was generally supposed that the method by the cautery was new, but this was not true; it was as old as medicine, but it had largely dropped out of use until recent years, and not until still more recently had it been applied with the skill made possible by improved methods. Two forms of actual cautery were mostly in use, namely, electro-puncture and electro-excision. Electro-puncture, the speaker said, could not become popular among general practitioners, owing to the number of applications and time which it required. The galvano-cautery loop was sometimes made use of for excising the tonsil. The cold snare had also been recommended for the same purpose, but he doubted whether it would come into favor since it produced extreme pain.

Regarding excision of the tonsil by the knife or guillotine, he said it was done frequently, yet it was an extremely dangerous operation. He did not mean to say that it was a difficult operation, but there might be abnormal arterial distribution causing hemorrhage which could not be controlled. Danger of serious hemorrhage could be referred to three sources: 1, abnormal distribution of vessels; 2, venus plexus behind; 3, profuse capillary bleeding. The vessels being sclerosed in hypertrophy of the tonsil, they were liable to remain open when divided and thus cause serious hemorrhage. There was no other way to control hemorrhage, he believed, than by pressure. In a case where a loop of the carotid artery entered the tonsil and was divided during excision, the patient died in a few seconds. He gave preference to Mackenzie's modification of the tonsillotome in the way of cutting instruments. He would not operate simply because a tonsil was very large; but would operate if it interfered with respiration, or caused frequent attacks of quinsy, or interfered with audition.

The Existence of a Tonsil Should be Regarded as a Disease.—Dr. F. H. Bosworth said that ten or eleven years ago he had made the assertion that practically there is no tonsil in the healthy throat. The existence of a tonsil should be regarded as a disease to be dealt with summarily and promptly. As to symptoms, he did not think snoring and interference with breathing was to be attributed to enlarged tonsils, but rather to enlarged so-called third tonsil or enlarged glands in the pharynx. He did not believe that enlarged faucial tonsils gave rise to difficult breathing, or nasal catarrh, or difficult hearing.

What tonsils should be cut out? All tonsils should be cut out. Tonsils meant diseased lymphatic tissue, which if it remained a sufficient length of time would then continue to exist during life. It had been said that tonsils disappeared at puberty, but he could say they did nothing of the sort. They shrank up at puberty, but in doing so they became a source of no inconsiderable trouble, especially in forming places for the accumulation of mucus which would undergo cheesy degeneration. Continuing, Dr. Bosworth asked, What constitutes a healthy tonsil? How were we to tell? How many children were in a state of absolute health regarding their lymphatic glands? When the glands were enlarged he assumed that they were diseased. Yet he would not say remove every tonsil. But as soon as a so-called enlarged tonsil caused symptoms he would remove it.

As to mode of operating, he condemned the electro-puncture, which sometimes required even fifty or sixty sittings, whereas a second was sufficient time by the knife. Moreover, the reaction following electro-puncture stimulated the formation of connective tissue, and created a worse condition than the one which it was intended to remove. As to the knife proper, it required a wonderfully skilled surgeon to use it safely in a struggling child. He preferred the French tonsillitome to Mackenzie's. He did not consider tonsillotomy a dangerous operation; he knew of no recorded death from it by a surgeon. No surgeon would cut the carotid artery. He had seen no serious hemorrhage in the child, but in adults there was more or less perplexing bleeding, and he there employed the cold snare. As to removal of part of the tonsil only, he regarded it about as justifiable as taking off only a part of a uterine fibroid. Something was left which could be of no further use than to act as a trap for disease.

Tonsillotomy not Dangerous.—Dr. D. B. Delavan thought there was a great deal more truth than fancy in

Dr. Bosworth's views of the pathology of the tonsils. He thought the tonsil should be treated surgically when it was hypertrophied to the extent of forming an obstruction in the naso-pharynx, or when it caused recurring attacks of follicular tonsillitis. As to hemorrhage, he had seen only one instance of marked hemorrhage in a child, and that patient happened to be of the hemorrhagic diathesis. The tonsillitome was best in children. He would employ the cautery only where the knife was specially contra-indicated or the patient would not allow it to be used. Keep the first clot on if possible, and there would be quick healing. He thought that ere long men would cease to burn the throat and nose as much as at present. He would not advise the general practitioner without special instruction in throat difficulties to do tonsillotomy.

Congestion versus Hypertrophy.—Dr. O. B. Douglas had been in the habit of regarding the enlarged tonsil not as necessarily hypertrophied; it might be simply inflamed or congested. Instead, therefore, of always removing it, he now first tried to reduce its size by astringents, etc., or, if there were a cause outside, he treated that. In the case, however, of enlarged or pharyngeal tonsil, he would remove it. A common source of enlargement of the tonsils was a diseased condition within the nose, which should be treated. Often there was connection between the enlarged faucial tonsil and anterior pillar of the fauces, and by separating them the tonsil would frequently be caused to subside. Where there was interference with breathing, deglutition, etc., remove the tonsil, but not otherwise. He believed it was often removed where it should not be.

Is the Specialist Extreme?—Dr. Beverley Robinson remarked that if one looked upon the tonsils from the specialist's point of view, it would seem that all would have to come out. He was decidedly of the opinion that not every tonsil meant disease, or that every enlarged tonsil should come out. Nor did he believe that in the majority of cases where the tonsil called for surgical treatment that the whole gland should be removed. Further, he believed that the danger from hemorrhage was much increased by removing the entire tonsil. Again, he believed that disease was more likely to follow complete excision than partial excision. He felt some anxiety in taking out large tonsils in children, for there undoubtedly were cases of death due directly or indirectly to the operation. If one wished to resort to galvano-puncture, he was convinced that it would seldom be necessary to hold more than half a dozen sittings. The cautery was specially useful in breaking up crypts in which mucus lodged. Here it was more rational than total or partial excision.

Dr. Robinson said he knew one specialist in the city who removed a great many tonsils, but did not have his own, which were enlarged, operated upon. He seemed to think there were a good many people who were more willing to act out their ideas on others than to be experimented upon themselves.

Indications for Galvano-Puncture. — Dr. Knight, chairman of the section, being called upon, explained the position which he held with regard to galvano-puncture, with which his name had become somewhat connected. There were only four conditions in which he would resort to galvano-puncture instead of excision: 1. Where one could distinctly recognize vascular anomaly. 2. Where the tonsil was deeply buried, flat, diffuse, perhaps adherent with the pillars, and could not be included readily in tonsillitome. 3. In hæmophilia. 4. Where the patient absolutely refused to be cut. Regarding the number of sittings, he called for fewer than formerly if the patient were tolerant of a number of punctures at a sitting. The electric wire loop was useful if the patient was willing to put up with the greater suffering.

Enlarged Tonsils and Stupidity.—Dr. A. Jacobi thought there was less difference of opinion between the speakers than there seemed to be. The stupidity, which had been explained by interference with the respiration, he would attribute to the connection between the glands in the pharynx and those within the cranium, the latter being diseased secondarily, directly influencing cerebral or mental function and development. As to abscesses being caused by electro-puncture, this should not be if the method were practised aright; that is, do not leave blind pouches by the puncture, Several attacks of follicular abscess constituted a good indication for surgical treatment of the tonsils.

Opposed to Wholesale Tonsillotomy.—Dr. Agramonte opposed wholesale tonsillotomy, if for no other reason than the fact that some deaths had undoubtedly been due to the operation. Yet where the enlarged tonsils obstructed breathing, gave rise to attacks of tonsillitis, or diphtheria, etc., they should be removed. One should always be prepared to meet hemorrhage; have the cautery and other agents convenient. Before operating, feel for pulsation in the tonsil with the finger. He had seen frequent attacks of follicular tonsillitis and diphtheria cease in the adult after tonsillotomy.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DISCUSSION AT THE PATHOLOGICAL SOCIETY ON PHAGOCYTOSIS AND IMMUNITY—SPEECHES BY DR. SIMS WOODHEAD, PROFESSOR KLEIN, AND MR. KANTHACK.

London, February 20, 1892.

An important debate on "phagocytosis and immunity" is now in progress at the Pathological Society of London. It was opened at the last meeting and is to be continued at the next. The president (Sir George Murray Humphry, of Cambridge) defined the limits of the discussion by stating that its object was to show how the blood dealt with morbid material introduced into it from without.

Dr. Sims Woodhead then opened the discussion in a lengthy and elaborate address in which he reviewed the work on the subject which had been done by various workers up to the present date. It was impossible, he said, to discuss the relation of phagocytosis to immunity without introducing much concerning chemotaxis, and what had been aptly spoken of as the humoral theory of immunity. The former of these was not antagonistic to, but might be actually looked upon as an essential part of, phagocytosis. The latter, however, was held to be in direct opposition to Metschnikoff's theory, though an attempt was now being made to combine the two—an attempt which was gaining ground, though it was founded on little experimental basis.

Taking first the question of phagocytosis from its physiological standpoint, it had long been recognized, he said, that inert particles finding their way into the animal system, or even introduced into the blood of a newt directly after it had been drawn, were rapidly taken up by leucocytes, and, in the body, from them, by the connective or other fixed tissue-cells. A similar process had been observed by every pathologist who had examined a healing wound, a section of the lung, or the cells of a normal spleen. The significance of the process was first pointed out by Haeckel who, comparing the leucocyte of the newt with those of the lower amœboid organisms, indicated that this must be the remaining evidence of a normal process of nutrition common to amœboid cells in whatever position they existed. Attention was first drawn to the part played by phagocytic cells in the production of immunity by Carl Roser, who, in 1881, described examples of the possession of this phagocytic power by the cells of both plants and animals, and of its importance in the resistance by them to the attack of pathogenic fungi by which they were sometimes invaded. He maintained

that the mobile amœboid cells of the animal body had the power of taking in and digesting even living micro-organisms which in non-resistant or non-immune animals had the power of withstanding the attacks of the devouring cells. As the result of his observations, he was convinced that this power of taking up micro organisms must be an essential factor in the immunity enjoyed by non-susceptible animals. At this point Metschnikoff took up the question. He confirmed Haeckel's observations, and further demonstrated the fact that certain amœbæ and flagellated or ciliated organisms in the normal condition depended for much of their nourishment upon bacteria and fungi, which they destroyed in large numbers, taking them into the substance of their protoplasm, extracting from them all nutritive substance, and then throwing out such matter as they could not utilize. Dr. Woodhead then discussed at some length the subject of physiological phagocytosis and the question of the source of macrophages and microphages. He remarked that the power which amœboid cells in the higher animal organisms possessed, viz, the power of removing innocuous material, was perfectly different from the phagocytic function exerted by the single-celled amœbæ or by the mesoderm cell of the lower invertebrates, which actually attacked living organisms and depended upon this power in a very large degree for their nourishment. In the process of development this attacking power was to a certain extent lost, though the scavenging power might still remain. But although in great measure lost through disuse, this attacking power remained as one of the potential faculties of the primitive protoplasm, and—under suitable conditions—might again be brought into play. The scavenging leucocytes might regain their original attacking function to such an extent that they might not only remove dead tissue and innocuous micro-organisms, but actually attack, ingest, and destroy micro-organisms to which, under ordinary circumstances, they would exhibit the greatest aversion, or to which they would succumb if brought into contact with them. This was the key to Metschnikoff's whole position. This special stimulation of the leucocytes must be commenced gently and gradually increased, so that we might say there was a gradual preparation or acclimatization of leucocytes before they could contend successfully with pathogenic micro-organisms, and before they could regain their phagocytic functions from the nutritive point of view—a function that might become so marked that the secondary or scavenging function was relegated to a comparatively unimportant condition.

Dr. Woodhead then passed on to the consideration of tissue resistance and tissue cells. He said Metschnikoff drew a marked distinction between leucocytes and cells derived from connective tissue—a distinction, however, which did not seem to hold good in all cases. He then discussed the action of phagocytes on bacilli, and described the method by which Metschnikoff had (in the case of anthrax) shown that the bacilli were not killed before being taken into the substance of the cell, but still retained their power of vegetable reproduction. The following subjects were then passed in review at some length: chemotaxis (positive and negative), antibiotic substances, the behavior to toxines of the leucocytes of immune animals, and the question of the production of immunity by varying processes.

In concluding his address, Dr. Woodhead said that in all our researches on immunity we were confronted with the question, "How is it that immunity is conferred for one disease only, or certainly for one series only?" Why should an attack of vaccinia or variola be necessary to ensure protection against another attack of variola? The exhaustion or assimilation theory was early found insufficient to account for it, as it also was to explain the different action of the bacillus prodigiosus, which, while lessening the action of a dose of anthrax, increased the virulence of Chauveau's bacillus, or charbon symptomatique. The local immunity theory was also found inadequate, and local immunity as a factor in immunity had had its day. The adaptation theory, or cellular chemical theory advocated by Klebs and Grawitz, Ribbert's theory of massing of leucocytes, and Metschnikoff's phagocyte theory had in turn ousted the retention theory advocated by Wernich and Chauveau, while the serum bactericidal theory had come forward to rout this if possible. With regard to the latter, even should the bactericidal power of serum be proved to exist, it must depend directly upon changes produced in the cells—changes which must be equally specific if what we thought we knew about immunity was at all to be trusted. Immunity was specific, while this bactericidal power of serum was very general in its action unless we accepted the view that the blood must be loaded with a fresh bacteria-killing material for every disease we contracted from childhood upward.

Professor Burdon-Sanderson then spoke and declared himself hostile to the theory of phagocytosis. He said all physiologists admitted the specific power of the organism to protect itself, and that in many instances the intervention of leucocytes was associated with this power. Many pathologists, however, declined to vest protective power in the leucocytes or to recognize any direct relation between their activity and the specific exciting causes of specific diseases; they preferred to attribute the phenomena of phagocytosis to the ordinary endowments which leucocytes manifested, not merely in disease but under normal physiological conditions; such, for example, as those under which they acted in the processes by which effete structures were absorbed.

Professor Klein followed, and expressed his inability to accept arguments for the phagocyte theory. He said the question embraced a wider field of observation than was included in the views already advanced. Some investigators included all instances in which bacteria were found engulfed in cells. This was the first error, and he illustrated his remark by exhibiting a number of microphotographs showing a dozen instances of micro organisms contained in cells which were breaking down under their influence, thus reversing the process. The influence of chemotaxis, as shown in the cells of the bile ducts in which psorosperms were growing, was of quite a different nature to that asserted. After criticising some observations of Emmerich, Mattei, and Metschnikoff, he asked if there were any well established cases in which bacilli were known to have been destroyed by lymph or other juices. Dr. F. Andrewes, he said, was carrying out some experiments which showed that pus, already dead, and even when twenty-four hours out of the body, had a rapidly noxious effect upon these organisms. When anthrax was introduced into the dorsal lymph sac of a frog, it was hours before any bacilli were seen enclosed in cells, the lymph itself being capable of destroying them. Dr. Klein then described some experiments in which it had been found that a rapid diminution in bacilli occurred within two hours of their introduction into the body. This was not at all in accord with the time observed in their gradual approach and engulfment by cells, and he thought it was much simpler to assume that the juices of the body were germicidal, though Buchner's explanation, he admitted, gave little account of what took place with regard to the bacilli after they had been weakened by exposure to the juices.

Mr. Kanthack said he assumed that at the present date no doubt existed as to the occurrence of phagocytosis, but the question was whether immunity from infective diseases or lesions was caused by phagocytosis, *i.e.*, through the phagocytes alone and nothing else. He discussed in succession the following points: 1. The influence of the body fluids. 2. Chemotaxis. 3. Phagocytosis. As to the first of these, he concluded that at the present state of our knowledge it was impossible to assert that the living plasma was of no consequence, and he related numerous experiments showing the action of the body fluids; he would not, he said, claim more for the body fluids at present. Chemotaxis had of late been in-

troduced as a welcome support to the theory of phagocytosis, but I do not gather from what Mr. Kanthack said that he considered that it taught us much as to the acquisition of immunity. As to phagocytosis itself, he fully acknowledged that it existed and that it was an important phenomenon during and after the acquisition of immunity, but the exclusive phagocyte theory was both inadequate and unsatisfactory. He enumerated a few of the difficulties which had occurred to him. 1. By causing fever artificially in an animal the army of phagocytes—both of the so-called lymphocytes and of the larger elements—was increased tenfold, but on inoculating the animal with anthrax it would die as usual. 2. This showed that the increased number of phagocytes was not in itself sufficient, but that they required special training, and this was the most unsatisfactory part of the theory. 3. The occurrence and importance of vaccine fever during the process of immunization pointed to more general changes than a mere change of habit of the phagocyte alone. 4. Emmerich had shown that changes existed in all the tissues, for he was able to protect animals by inoculating them with the tissue-juices of immunized animals. 5. Some of the methods of immunization pointed strongly to general changes in the body. 6. Phagocytosis did not explain many of the phenomena he had described. Mr. Kanthack therefore maintained that we could not hold any one process primarily responsible for the artificial production of immunity. The primary cause of immunity must be sought beyond the leucocyte or phagocyte, and also beyond the fluids of the body, and, according to the maxims of cellular pathology, depended on changes in the cell-life of the organism, which at present we were unable to understand. It was in consequence of these as yet obscure molecular changes that phagocytosis and the other phenomena observed after or during immunization appeared, but none of these alone could be considered the cause of immunity.

OUR BERLIN LETTER.

(From our Special Correspondent).

THE INFLUENZA BACILLUS AND THE EPIDEMIC OF INFLUENZA—WHAT IS YET TO BE LEARNED CONCERNING PREVENTIVE MEASURES REGARDING THE SPREAD OF THE EPIDEMIC—ANOTHER ALLEGED CURE FOR CANCER—CRYSTALLIZED AGAINST LIQUID CHLOROFORM—LOCAL ANÆSTHESIA IN A NEW PHASE.

BERLIN, February 10, 1892.

MEDICAL interest is still centred in the influenza, owing to the large mortality of those affected, and also to the uncommon number of complications associated with the disease. A very elaborate work on influenza will soon be published under the auspices of the Society for Internal Medicine, and will contain contributions from numerous celebrated authorities who have been assisted in their work by observers from all parts of the globe. It is then to be hoped, from a statistical, clinical, and historical point of view, many of the vexed questions concerning this mysterious disease will be settled. The fact that the epidemic is on the wane will be hailed with delight by all people, excepting, perhaps, the discoverers of the influenza bacillus, Messrs. Pfeiffer and Canon, and many others, scientifically speaking, regret the comparatively restricted sphere of their observation.

The most important questions as to how long the influenza bacillus can live, how the disease is transmitted from man to man, and how an inoculation of the pure culture of bacilli can generate the disease and render the system thereby less liable to the complications, are still practically unanswered Nobody to-day questions the coexistence of the bacillus and the disease, and in this give due credit to the investigations of Pfeiffer and Canon. The priority of the discovery is credited in France to Babes, who published in 1890, in the *Centralblatt für Bakteriologie*, an account of the bacilli and micrococci found in influenza, without emphatically saying, however, that this or that microbe caused the disease. The French dispute the priority of the German discovery. Babes has just written a paper wherein he gives credit to the discoverers of the bacillus (Pfeiffer and Canon), but adds that it is too soon to expect great practical and therapeutical results therefrom. The most important point in the *rôle* of the infectious diseases will be to discover their prophylactic influences. It will be necessary, as in diphtheria, abdominal typhus, and tuberculosis, to carefully examine the excreta of influenza, and in this we may note some relation of cause and effect. That new specifics for the treatment of influenza should turn up daily is no wonder, as each would-be discoverer naturally desires to become famous as a benefactor in this line. But so much misrepresentation has been done in the therapeutics of the last ten years that every new remedy is looked upon with deserved suspicion.

The same fate as to general recognition of the specific treatments in influenza awaits that of Professor Adamkiewicz in Vienna, who has a new remedy for cancer. Recently in the Medical Society of Vienna he presented a case of cancer as cured. Professor Billroth and Professor Kumbrat, who were present, were not convinced of the diagnosis or cure. Here in Berlin, where Adamkiewicz is well known, owing to his therapeutic researches, his announcement is regarded sceptically, more so because he has (which by the way is fashionable) not yet given his remedy nor his method a trial. Such announcements would be received in a very quiet way, but in each case the laity in some way hears of it, and takes a very active part in it, and believes that all opposition is caused by jealousy, and consequently seeks to rush all cancer patients to the new prophet and neglect the operative treatment which might ultimately save them. We shall, however, soon hear every detail concerning the method, as he has announced a paper on the subject, to be read at Leipsic, in the beginning of April, at the Congress of Internal Medicine.

At almost the same time we shall have here in Berlin a meeting of the Congress of German Surgeons, but I hear this will be postponed possibly until May, in order that the memory of Langenbeck can be honored by the dedication of the Langenbeck House.

It had been the lifelong wish of Langenbeck that the German surgeons should have a home of their own, and now it is about to be consummated, thanks to the munificence of the late Kaiserin Augusta and Kaiser Frederick III., as also to the present Kaiser, the numerous home and foreign societies, and our American friends who have contributed 1,000 marks.

The site is next to the Surgical Clinic, wherein Langenbeck worked faithfully many years. Along with this building Berlin will have a proper meeting place, with an auditorium which will comfortably seat several hundred people; a second hall will seat about one hundred people for smaller meetings. There will also be rooms for microscopical and laryngoscopical work; there will be additional rooms suitable for special demonstrations.

There will be arrangements to darken the meeting-rooms so that microscopical specimens can be enlarged on the screen, and thus clearly demonstrated. Besides, above these will be ample room devoted to the library of the Berlin Medical Society, and a large room for the maintenance of all surgical and other specimens. It is needless to add that all modern comforts, as electricity, hot air, and steam, will be utilized.

The scientific programme of the coming Surgical Congress, Honorable President Professor v. Bardeleben, has not yet been announced, at the same time it is understood that the chloroform question will again be under discussion. It has assumed a different attitude since Professor Raoul Piczet, who has lately moved to Berlin from Geneva, has been able by applying very low temperatures to produce a crystallized chloroform, which he claims can by a certain process of recrystallization be made absolutely free from impurities.

It has been hoped that all disagreeable symptoms, such as chloroform intoxication and vomiting, and other unpleasant effects on the nervous system, could be prevented thereby, but more especially, the ever-recurring deaths by narcosis.

The application has as yet been restricted to a limited number of patients, still it must be said that Piczet's chloroform is not altogether free from danger, for in one of our large hospitals where it was used in a case of laparotomy, diastole of the recti muscles was noticed after the operation.

From other sources we hear great praise given to the new preparation, which is considered superior to the best fluid chloroform.

This striving to obtain a pure chloroform is somewhat antagonized by a desire on the part of others to perpetually banish chloroform from surgery, and to substitute local anæsthesia for it. The idea is not new, but the method of its application is arousing considerable attention.

One of our young surgeons, Dr. C. Schlerch, in Berlin, has used for some time a combination of ether-cocaine—the ether is applied externally in the form of spray and the cocaine (¼ to ½ per cent. solution) hypodermically by very deep injections into the whole area of the operation. Instead of cocaine some are using bromide of potassium, some morphine, but not as successfully as the former. Before each incision cocaine is injected until pain is not felt by the patient. With the aid of this method, this surgeon has not only succeeded in operating upon hæmorrhoids, phlegmonous abscesses, and doing plastic operations, but also the most complicated operations, such as laparotomy, tracheotomy, nephrectomy, and even gastrostomy.

Dr. Boas attended one of these gastrostomies, and informed me that the patient lay quietly on the table during the whole of the operation and chatted with the assistants, and although the operation lasted half an hour showed no sign of discomfort. But not all cases show as brilliant result as have just been described, for in some it was necessary to use chloroform as the only means of relieving pain. Still, we are forced to admit that in the above-described local anæsthetic chloroform will have a hard opponent, inasmuch as the public at large believes in anything that relieves pain without producing complete insensibility. It is also most admirably adapted for the country doctor, who, not always having suitable assistants with him, can undertake any and all operations, and, no matter how long they take, need not fear the effect on the heart. On the whole, there is no danger in local anæsthesia, and we can be assured that chloroform will henceforth rarely if ever be used in minor surgery, and it may not be very long before the method will be much improved and used exclusively.

THE HEALTH RESORTS ON THE RIVIERA.

II.—NICE.

(From our Special Commissioner.)

RECENT ARRAIGNMENT OF NICE—THE AUTHORITIES ON THE ALERT—PURITY OF THE DRINKING-WATER—THE BOARD OF HEALTH—PHYSICIANS AT NICE—STATISTICS OF MORTALITY—PRESENT SYSTEM OF DRAINAGE—NEW PLANS FOR SEWAGE DISPOSAL—CLIMATE AND PREVAILING DISEASES—NO TYPHUS FEVER AT NICE—MEDICAL INSTITUTIONS.

NICE, February 10, 1892.

NICE is the gay capital of the most picturesque littoral in all the world. Partial Nature has showered some of her choicest gifts into the willing lap of this lovely town in sunny Provence. Its distant mountain ranges, the winding vallons of its nearer hills, the Carnaval and Batailles des Fleurs, its palm-fringed Promenade des Anglais, the stir and bustle of its city life, the contrasting quietude of suburban villas, the theatres, concerts, turf, regattas, tennis, and what not, combine to give familiar enjoyment to increasing crowds of winter visitors. It has been aptly called the Brighton of the Continent and the "Pearl of the Mediterranean."

In this modern development of gay life, at times a trifle over-boisterous, the old-time claims of Nice as a health resort appear to have severely suffered. Yet the marvellous rise of the place received its first impetus from the early reputation of Nice as a winter station for invalids.

It cannot be denied, however, that its prestige in that direction has recently been rudely touched by certain alleged exposures. The climate of Nice was said to be very trying. Attention was called to its dirtiness, with the obligato accompaniment of noisome odors. The dangerous, dust-laden mistral, its lack of sanitary improvements, its moral turpitude, were all enlarged on. Its impending ruin was even darkly hinted at.

In face of this severe arraignment scores of people from all quarters of the globe continue to live at Nice. For the past eight weeks I have been making a personal study of sanitary and other matters here. I must own that I was favorably impressed by the hearty way in which the authorities assisted me in my labors. So far from wishing to conceal anything, the municipal officers made every effort to facilitate my investigations. The following note, sent by the Mayor to the President of the Board of Health, is one of many, and will illustrate the willingness of the authorities to co-operate with the RECORD Commissioner:—"M. le docteur E. C. Wendt, chargé par le *Medical Record*, de New York, de recueillir des renseignements sur les conditions sanitaires des villes du littoral, désirerait entrer en relation avec vous et connaître les travaux du Bureau d'Hygiène. Je le recommande à votre bienveillant accueil dans l'intérêt de la ville de Nice. Tout à vous, le Comte ALZIARY DE MALAUSSENA, Maire de Nice."

As already stated, Nice has been disparaged on account of the alleged unwillingness of the authorities to effect necessary changes. But so far from pretending that the sanitation of their city is perfect, the Municipal Government is keenly alive to the necessity of certain radical alterations. The immediate improvement of their system of sewage disposal is in contemplation. I can state, on the authority of the Mayor, that a sufficient fund for beginning work is already available, and that by means of taxation enough and more could be raised to carry out the projected improvements. But before entering upon a description of the new plans, it will be well to briefly explain the present condition of things at Nice.

To begin with the drinking-water, I examined the sources whence it is taken, and found that they were mostly pure mountain springs. The Nice drinking-water is by many of the Niçois themselves, including physicians, confounded with the water conducted to the city in the open Canal de la Vésubie. The latter is, of course, quite impure, but it is supplied solely for street-washing, sewer-flushing, fire-extinguishing, and industrial purposes. The aqueduct of the Compagnie Générale des Eaux, built in 1867, is a well-constructed, completely closed conduit. The trip to the main sources of St. Thècle is well worth making, if for the changeful beauty of the scenery alone. The way is along the old Turin state road. Passing the villages of La Trinité and Drap, you come at length to the mountain slopes, whence the water is taken. Beyond you plainly see that extraordinary human eyrie, the village of Peille, perched on a steep forbidding rock. There the Saracens once held unmolested sway, making piratical excursions into the surrounding lowlands.

The main spring of the Nice Water Company juts boldly out of a deep crevasse in a grotto of limestone rocks. It is at once collected into a clay pipe, which forms the beginning of miles and miles of aqueduct. A little lower down a second similar source is found, and a third one not far from this. The last named, the Comtesse source, is not free from suspicion, as the water wells up languidly through the clay soil, and contamination by

ground filtration from a few near-by houses is not sufficiently guarded against.

An additional irreproachable mountain spring is situated a mile away from these St. Thècle sources. It sends but a small volume of clear water to the aqueduct. The Nice water, as supplied by the company at small cost to the residents, is, therefore, a mixed water. It is hard, chalky, and very slightly acidulous to the taste. Those who can drink dilute lime-water may safely take it. Filtration is not necessary, but boiling would of course destroy the traces of organic admixture that it contains.

The bacteriological tests instituted by the health authorities, under supervision of Dr. Balestre, show that one source is not altogether what it should be, viz., the "Comtesse," at St. Thècle. As this gives but a very scant supply of water, it will probably soon be entirely suppressed. This would remove the only exception that can now be taken to the purity of the Nice drinking-water. The detailed results of bacteriological tests, though interesting, would occupy too much space here. The composition of the water is as follows :—

Analysis of the Nice Drinking-water, made by M. Durand-Claye, de l'École des Ponts et Chaussées.

Ingredients of one litre, evaporated to dryness.	St. Thècle.		
	Crevice in rock.	Source of Pré.	Peillon source.
	Gr.	Gr.	Gr.
Insoluble residue	0.010	0.004	Traces
Alumina and peroxide of iron	0.001	0.001	Traces
Chalk	0.000	0.085	0.050
Magnesia	0.016	0.009	0.040
Alkalies (various)	0.016	0.008	0.030
Chlorides	0.013	Traces	0.020
Sulphates	0.015	0.011	0.010
Organic matters	0.016	0.003	0.030
Carbonic acid and unclassified substances	0.054	0.059	0.060
Total residue of evaporation of one litre	0.212	0.180	0.240

There are also a number of wells in Nice. The water from this source is shown to be impure by bacteriological tests, and should be condemned.

The Board of Health has been established six years, and has in that period accomplished a great deal of good. It is hampered by the peculiarities of French law, for it cannot legally enforce its rules and regulations, although it can generally worry people into complying with its requests. Its functions are briefly these: to preserve a record of vital statistics, to inspect all foods sold in stores and markets, to test the purity of all wines before the latter can be sold, to inspect all schools, hotels, lodging-houses, and even private residences, and to report on all sanitary matters in connection therewith. The disadvantages under which the Board labors are these: There is no law making obligatory the notification of contagious diseases, no compulsory vaccination, no law compelling disinfection of suspicious premises, and no law which can force a physician to certify the cause of death in any of his patients. As a matter of fact, reputable physicians never refuse this information, but at the same time it is a serious drawback that the law cannot, at present, compel them to do so. Legislation on this point is, however, already under way.

It is one of the decided advantages of a large city that its pecuniary rewards attract good professional talent. Thus there is no dearth of competent physicians at Nice.

The death-rate of Nice will bear favorable comparison with that of any city in the world. And, what is more, it appears to be diminishing rather than increasing. In justice to the city, it should be borne in mind that, in calculating percentages, the permanent population is used as a basis. The census of 1891 gives Nice a population of 97,720. But as there is a large floating population, estimated to reach 30,000 or 40,000 during the season, and as many invalids go to Nice to die, it follows that the actual death-rate must be even lower than the official returns make it. Here are the figures, however, as given by the Board of Health :—

In 1883	30.75	deaths	per 1,000.
" 1884	29.55	"	"
" 1885	28.82	"	"
" 1886	24.60	"	"
" 1887	25.21	"	"
" 1888	20.62	"	"
" 1889	21.78	"	"
" 1890	21.63	"	"

The question of sewage disposal is the most important problem now before the authorities at Nice. The town has quite outgrown its present facilities for the proper discharge of waste matter. The trouble is not so much with the street sewers as with the totally inadequate and antiquated methods of house-drainage. The city has spent large sums of money in establishing a network of sewers that covers nearly all important points of the town. But landlords and lease-holders have been far less liberal than the Municipality. The house-pipes in many hotels and boarding-houses, and even in some of the better class of villas, consist of old, insecurely-joined clay conduits. Properly ventilated traps and cut-offs are conspicuous by their absence from most places where they are imperatively called for.

The city has recently constructed eighty automatic sewer-flushing tanks, placed at the heads of all main drains. The capacity of each cistern is about two thousand five hundred gallons. When full, they suddenly discharge their contents by a simple automatic syphon arrangement. When the Vésubie water runs plentifully the tanks will fill and spout every few hours. At other times they discharge only four times in the twenty-four hours. Still, even this secures very fair cleansing of the sewers, as I have personally witnessed.

Two large iron pipes at present collect the sewage and carry it out to sea, one hundred yards distant from the shore. From a hygienic point of view not much can be said against this temporary make-shift, as no odors arise from this source. Rowing about over the points where the sewage is discharged clearly proved the absence of bad smells, and showed that the well-known oxidizing properties of sea-water in motion are doing good work. At the same time it must not be forgotten that the Mediterranean is an all but tideless sea, and that æsthetic reasons alone would dictate the suppression of sewer pipes emptying near the beautiful Promenade des Anglais.

Several sewage-contaminated water courses, coming down from the vallons of Nice, still exist. One, at the opening of the boulevard Gambetta on the Promenade des Anglais, is particularly offensive. Nevertheless, washwomen may be daily seen to clean (?) their linen in this foul stream. They seem to enjoy an immunity from sewer-gas-engendered maladies, and they must surely be blessed with an enviable dulness of their sense of smell. No sewage is at present discharged into the Pallion River flowing through the town, all the old mouths of the sewers having been closed up.

The imperfections of house-drainage have already been mentioned. At the present time most hotels and private residences have cesspools, and, although the law forbids it, many of them are connected by untrapped overflows with the street sewers. This is, of course, a dangerous method, and will be entirely done away with as soon as the new system of drainage shall have been completed. Then there will be a *tout à l'égout* arrangement, which is, for large cities, the only safe and reliable method of sewage disposal. In Nice the establishment of such a system will, however, imperatively call for a complete overhauling of house-pipes, as well as the connection of house soil pipes with street sewers, under the supervision of expert sanitary engineers. Nothing short of this can be considered safe. And while the immediate expenditure may appear to be large, it will prove profitable in the long run.

Fully recognizing the shortcomings of their present system, the authorities are now considering two new plans for perfecting the same. The first of these is M. Bérard's plan. It is quite simple, and would be comparatively inexpensive. After rectifying, repairing, or newly-constructing a comprehensive system of street sewers, a large collecting conduit is to be built parallel with the shore line. This will carry the sewage down to the Magnan by a natural incline. Thence an iron conduit will convey it nearly five hundred feet out to sea. The advantages of this plan are that it is cheap, feasible, and measurably effective.

A more radical, but also vastly more expensive, plan is that of M. Masson, the Paris expert. It is, so far as known, merely an extension of the Bérard plan, with this difference: that in place of a natural incline, one or more pumps are to be used as a propelling force to convey the sewage. Moreover, instead of taking the waste only to the Magnan stream, it is proposed to run it all the way down to the mouths of the Var River. This is a distance of some four miles, and while it is, of course, a safer plan, it would entail a very large expenditure of money, and occupy much more time in construction. Besides all this, it is no secret that sewage pumps are apt to get out of order, and cause dangerous obstructions.

While readily admitting the engineering capacity of the French, I have urged the authorities, in their own interest, to obtain at least the approval for their new plans of some English expert, like Sir Douglas Galton. The Mayor of Nice, quite alive to the benefits likely to arise from satisfying the wealthy Anglo-American contingent, has expressed his entire willingness to obtain the approval of the Municipal Council for such a course. Florence having already taken this step, it is more than likely that Nice will now do likewise.

It is satisfactory to know that all the old Nice culverts are soon to be replaced by a simple, cheap, and effective device, adapted by M. Bérard.

The climatic peculiarities of the Riviera invite sudden chills and colds, certain throat troubles, and an exacerbation of some nervous symptoms. But beyond that, all the evil that has been laid at the door of Nice, on the score of its dangerous climate, has been dictated by ignorance, envy, or malevolence. It must stand to reason that a place highly prized by the Romans for its sunshine and dry air, and which for centuries has maintained an excellent reputation as a winter health-resort for all classes of patients, cannot be devoid of substantial and perma nent advantages. Volumes have been written on the climate of the Riviera. Nice enjoys nothing more nor less than Riviera climate. It is more sheltered than some places, but it is nevertheless exposed to the mistral, which blows at Nice just as it blows at other Riviera spots. It should be borne in mind by invalids and tourists, that Nice and the Riviera in general really possess two distinct and different climates, viz., a sea-shore or marine climate, and an inland or mountain climate. It is quite well known that immediate proximity to the sea may induce sleeplessness and other symptoms, denoting too exciting an action on the nervous system. The dry, sunny, inland air is tonic and sedative; the air along the shores of the sea is bracing and exciting. The air of the city itself is often a mixture of the two. There is the whole situation in a nutshell, and everything else is rubbish or *réclame*. One need not, therefore, be a physician to understand why Nice will benefit some patients and injure others.

For thermometric range and other meteorological data, consult special works, although they teach one nothing new.

At the present time Nice is not exempt from influenza, and catarrhal affections are quite plentiful. But a careful scrutiny of the causes of death, as well as conversation with leading practitioners and residents at Nice, have convinced me that there is no typhoid fever at present in Nice. Moreover, even should this dreaded disease exist in the dirty old Riquier quarter, there is no reason why the foreign colony should not remain exempt, owing to the impossibility of fouling the drinking-water. But, of course, it is always safer to have no fever within the city limits, as has been the case at Nice for some time.

There is no end of baths, massage places, and other so-called medical institutions at Nice. They are neither above nor below the standard of that class of establishments. Physicians will do well to investigate before allowing their patients to receive alleged treatment.

The Hammam de Nice is a Turkish bathing establishment, where the massage you get is very much better than the air you breathe. The director is a medical gentleman of skill and experience. It is a pity that he has not yet adopted Anglo-American ideas of ventilation.

There is also an English nursing agency at Nice, where trained nurses can be found. It was founded by Mrs. Hollond, and is known as the Hollond Nursing Institution. The directress is Miss Woodcock, 18 rue Paganini. The whole Riviera is supplied from here.

Nice has one medical society, called the Société de Médecine et de Climatologie. Under the auspices of this society, the monthly *Nice Médical* is published. Dr. Bonnal is the editor of this journal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 5, 1892.

	Cases.	Deaths.
Typhus fever	30	2
Typhoid fever	10	3
Scarlet fever	224	37
Cerebro-spinal meningitis	2	7
Measles	366	14
Diphtheria	114	35
Small-pox	9	1
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

The Trans-Pecos Country as a Winter Health-resort for Consumptives.—According to Dr. Yandell (*Texas Sanitarian*), there is a portion of Northwestern Texas, formerly included in New Mexico, that has remarkable climatic advantages. It is called the Trans-Pecos country, and lies between the Pecos River on the east and the Rio Grande on the west and south, embracing the three counties of Pecos, Presidio, and El Paso. The conclusions of Dr. Yandell are based on the returns of the Signal Service, from the stations of Fort Stockton, Fort Davis, and Fort Bliss (El Paso), and from the reports of army surgeons and his own experience. The elevations assayed from 3,764 (El Paso) to 4,954 (Fort Stockton); the relative humidity from 47 in El Paso to 56 in Fort Stockton. While it is true that this territory does not possess an equable climate, it is claimed that the range *per diem*, which is from eighteen to twenty degrees, is not disagreeable, but pleasant even for an invalid. A climate with slight range of temperature indicates humidity, while all high and dry localities have a decided diurnal range of temperature. The change from the warmth of the afternoon to the coldness of the night, and from the coolness of the early morning to the warmth of midday, are not sudden and are agreeable. They belong to a sunshiny climate, especially to this region where there are not more than two or three cloudy days in a month. Protected by the Rocky Mountains, the Trans-Pecos country does not suffer from "northers," and high winds of any kind are rare.

It is held that Colorado and Northern New Mexico are

too cold for invalids. According to official figures taken from the records of the Health Office in El Paso, no white child has ever developed phthisis there, and only two adults since 1882. In one of these the phthisis was syphilitic, a common form among the Mexican population. Several negroes, however, are supposed to have died of tuberculous phthisis during that time, but on the whole it is claimed that this region has no equal in the world as a winter-resort for consumptives, especially during the season from October 1st to May 1st.

An Epitaph on Tuberculin.—Under this title our esteemed contemporary, the *Medical Press*, speaks, we think, a little too severely of tuberculin and its discoverer as follows: "For those whose interest in Koch's remedy for phthisis is not wholly dead the recent numbers of *Riforma Medica* contain instructive reading in the communication of Professor Rienzi to the Medical Academy of Naples. Like his brethren throughout the world, the professor hailed the prospect of curing, or staying phthisis, and hoping against hope, and with a faith strong in the face of the most startling facts, he determined to fairly test the remedy. He had the unfavorable reports of the medical journals throughout the world, and all the varying opinions of those who condemned and those who believed in the 'cure.' He had all the hints as to the selection of suitable cases, and he took every care to produce a favorable result. Forty-four patients, full of faith and hope, submitted themselves to the hypodermic injections, of which 469 were given. The number was quite sufficient to satisfy the professor. Two patients died suddenly of pulmonary œdema, and 13 of them were made very much worse. Of the whole 44 patients not one was benefited. Four of them, however, thought they were improved. There is no need to sound any note of warning against the use of the Koch nostrum—it is dead—no galvanism can even produce a semblance of life in its corpse. The most Teutonphile is ashamed of the utter collapse of the German fraud. £16 an ounce for spoilt glycerine, which only caused blood-poisoning, could not be defended on the grounds that the vendor was a scientist whose sole aim was medical progress. The terrible injury not alone to medicine, but to the people, of the countenance of Koch's secret remedy, will, we sincerely trust, be a lesson to all members of the medical profession. Medicine has nothing to do with secret nostrums, no matter how distinguished the vendor. Is it an adherence to the study of nature to blindly accept authority and use a drug of which nothing is known except that the sale makes the seller a rich man? When a physician vends a quack remedy he has by the act left the ranks of the profession, and joined the ranks of quackery, and stands in line with Holloway, Seigel, and Sequah."

The Suppurative Process.—At the recent meeting of the Pathological Society of London, Mr. Shattock read a paper in which he urged a revision of the terms at present employed in connection with the suppurative process. He maintained that the terms "suppuration" and "pus" were purely anatomical, and that they included things quite different in their etiology. Setting aside larger questions, the process of acute suppuration could etiologically be distinguished from other forms, and it was now well established by experiment that it was as specific in nature as tuberculosis or syphilis. Koch's four postulates in this case were all capable of fulfilment while the doctrine was confirmed by the check experiments of introducing aseptic chemical irritants beneath the skin of animals; if the animals were healthy, these produced inflammation but not suppuration. A strict parallel might be drawn between tuberculosis in its different manifestations and acute suppuration. Thus tuberculosis might be local, and there were local forms of acute suppuration, viz., acute circumscribed abscess, and diffuse suppuration; glandular tuberculosis corresponded with glandular abscess; general tuberculosis was analogous to pyæmia. The author suggested the term "pyosis." The acute abscess or acute suppuration of a wound would be pyosis in a local form, the secondary glandular infections would be termed glandular pyosis, and pyæmia be generalized pyosis. Mr. Shattock then mentioned some observations which he had made on the presence of peptone in the pus of acute abscess. The best method of demonstrating its presence, he said, was to shake the pus with half its bulk, or less, of a saturated solution of ammonium sulphate and then add crystals of the same sort to saturation. Filter. If a drop of copper-sulphate solution were then added to the clear filtrate no precipitate would be produced, for the ammonium sulphate had precipitated all the proteids except peptone; a dense white precipitate of potassium sulphate would be thrown down on adding excess of solution of caustic potash. On this subsiding the pink coloration of the supernatant fluid could be seen. He had been able, by dialysing pus, to show the same with the biuret reaction. For the separation of the albumoses, Dr. Sidney Martin's method was necessary. The presence of albumose and peptone in pus was not peculiar to the action of pyogenic microbes. Dr. Martin had shown both in the alkali albumin in which he had grown bacillus anthracis. Dr. Hunter said the peptone was undoubtedly formed by the agency of the organisms in the pus, and it was possible to give even a clearer demonstration of this fact, for if the ferments were isolated from the organisms they would still form peptones in albuminous fluids. This explained the occurrence of localized or diffuse inflammation after primary infection. If the organism were one which gave rise to a ferment of great peptonizing power, then the tissues would undergo rapid solution, and the lymphatics being quickly blocked the inflammation would remain localized; if, on the other hand, the organism produced a ferment of low peptonizing power, there was but little solution of tissue, the lymphatics remained open, and the inflammation spread. Dr. Lee Dickinson said he had examined several specimens of pus from pleural empyemata, and had always found the albumose to be more abundant than the peptone—possibly because the peptone was more rapidly absorbed from the pleura. Dr. Martin had found very little peptone in the fluid in which anthrax bacilli had been cultivated. Mr. Shattock in reply said the amount of peptone in all his specimens was very small—a mere trace, and the amount of albumose much larger.

Russian Universities.—The total number of students in the University of Warsaw during the current semester is 1,189, of whom 621 belong to the medical faculty. In the University of Dorpat the total number of students on September 1, 1891, was 1,723, of whom 863 were students of medicine. Between February 1st and September 1st the number of diplomas granted by the Medical Faculty of the University was 218. The degree of Doctor of Medicine was conferred on 46 candidates; the simple *venia practicandi* was granted to 39; the title of "District Medical Officer" to 14; the degree of Master of Pharmacy on 5; licenses to dispense to 32; licenses as druggists' assistants to 49; licenses to practise dentistry on 15; licenses to practise as midwives were also granted to 13 women. The number of students in the University of Kasan during the academic year 1890–91 was 757, of whom 402 belonged to the medical faculty. The degree of Doctor of Medicine was conferred on 5 candidates In the Military Medical Academy of St. Petersburg the license to practise was granted in 1891 to 100 candidates, of whom 38 passed "*cum laude*." Kieff licensed 72 candidates.—*British Medical Journal.*

Picrotoxine has been found by Murell to be an excellent remedy for night-sweats, in dose of one milligramme. It is supposed to act on the respiratory centres. Though its action on the perspiration is like that of atropine, it is indeed an antidote to this drug, as well as to hydrate of chloral.

A Suggestion with Regard to Spraying the Nasal Cavities.—Dr. F. A. Burrall, of New York City, writes: "As an aid to thorough spraying of the nares, I have formulated the following method, which originated from a suggestion made to me by a patient on whose nasal cavity I was using the upward spray: Direct the patient to inhale deeply, and place the tip of the atomizer behind the uvula without touching the posterior pharyngeal wall. Then the patient is to close his lips upon the tube and exhale through the nose. This carries the spray well forward upon the walls of the nasal cavities, and when an oily solution is used, such as the extract of pine needles in benzoinol, the volume of spray issuing from the nose resembles that of the air from the nostrils on a frosty morning. This process makes the spraying of the posterior and anterior nasal cavities more thorough than can be done by an ordinary application. It is a method worth mentioning, as there may be some physicians to whom the idea has not occurred, and they will find it serviceable."

A New Vegetable Digestant.—A digestive ferment has been isolated from the milk-juice of the Brazilian white fig tree (*Urostigma Dolarium*) by Peckolt. The milk-juice of this tree is of a creamy consistency, has an almond-like flavor, and readily dissolves fibrin and coagulated egg albumin. In addition to this ferment the juice contains caoutchouc and a principle named dolarlin, which, it is claimed, has tænicide properties.—*Meyer Brothers' Druggist.*

Cigarette Smoking.—The United States use 2,400,000,000 per year, or about 68 for each of the adult population, or 100 for each male. Russia consumes 2,593,000,000; Austria, 1,980,000,000. French smokers consume 10,000,000 francs worth of cigarettes every year; 1,500,000,000 are smoked every year in Great Britain and Ireland, London alone using up 1,000,000 a day.

The Man Has Been Found who established the first dispensary. His name was Théophraste Renandot. And now it is proposed to erect a monument to his memory. Never!

Physiology in 1891.—The *British Medical Journal*, January 2, 1891, speaks of the progress of physiological investigations last year. The discoveries have not been particularly new and striking, yet there has been a steady advance everywhere in knowledge. The related questions of phagocytosis, protective proteids, and poisonous albuminoses have been laboriously worked out and are somewhat nearer elucidation. Heidenhain's work on lymph, the *Journal* suggests, is perhaps the most remarkable and interesting paper of the year. Absorption of products of digestion is not merely osmosis. Exudation of lymph cannot be explained simply as due to diffusion under pressure. Heidenhain shows that it is dependent on the secretory activity of the endothelial cells in the capillary walls. The distinction between blood-lymph and tissue-lymph, upon which he also lays stress, affords a newer view to those who have always considered all kinds of lymph as exudations of blood-plasma. Another subject of physiological interest is the important part played by calcium salts in the various processes of coagulation. This line of inquiry has been carefully pursued by Ringer, Wright, and Sainsbury, in England, and by Arthus and Pagès, in France. Among important researches in the physiology of the nervous system, Ramon y Cajal and Kölliker, after methods introduced by Golgi, have succeeded in more fully demonstrating the non-continuity of sensory nerve-fibres with nerve-cells. Nervous impulses must therefore pass by virtue of mere contact, instead of through anatomically continuous channels to the cells. Nothing definite is yet advanced in regard to the true explanation of the connection between pancreatic disease or extirpation and diabetes. The pancreas is not a mere manufactory of pancreatic juice. It also now appears that the kidney has other uses than the secretion of urine; or at least that it plays an important part in the metabolic cycle, just as the liver performs many important metabolic functions other than the secretion of bile.

A Recipe Returned from Over Sea.—It is reported that at the Manhattan Club in New York a warm beverage, called an "oyster cocktail," is largely dispensed. For the benefit of those who may be possessed of suicidal intentions, I give the recipe. Seven small oysters are dropped into a tumbler, to which must be added a pinch of salt, three drops of fiery Tobasco sauce, three drops of Mexican Chili pepper sauce, and a spoonful of lemon juice. To this mixture add a little horseradish and green pepper sauce, African pepper ketchup, black pepper, and fill up with tomato juice. This should be stirred with a spoon, very slightly crushing the oysters, which are then lifted out and eaten, the liquid following as a cocktail.—*Hospital Gazette.*

How to Rid a House of Fleas.—A correspondent of the Washington *Star* says that he completely rid a badly infested house of fleas in two nights by a very simple procedure. He placed sheets of sticky fly paper on the floors of the several rooms, each sheet having a piece of fresh meat in the centre. The fleas jump for the meat and fasten themselves to the paper. If New York is visited the coming summer as it was the last, this will be a point worth remembering.

The Cause of Baldness, says a recent German writer, is too much barbering. In support of his theory he instances long-haired artists who never trouble the barber and have a plentiful stock of hair, but he forgets that such people are usually killed off by an outraged populace before they get old enough to be bald.

Mandibular Tubercles.—At a meeting of the Pathological Society of London, Mr. Bland Sutton described four cases illustrative of the mandibular tubercle which is occasionally found in one or both cheeks of children, at a point from two to four centimetres behind the angle of the mouth. In three of the cases there was a distinct cicatrix in the buccal mucous membrane opposite to the tubercle. One of the tubercles, on microscopical examination, presented the structure of a small dermoid.—*British Medical Journal.*

The Treatment of Tachycardia. — Dr. Poulet, of Plancher-les-Mines, has recently found a remedy for paroxysmal tachycardia, in a little-known plant indigenous to Alsace, which appears to exert a rapid and beneficial influence over the paroxysms. The plant in question is the Coronilla varia, or *faucille*, which, like some other species of Coronilla, is sometimes used as a household remedy, being considered to have cathartic and diuretic properties. Some recent researches by MM. Spillmann and Haushalter on a closely allied species—Coronilla scorpioides—showed that that plant acts as a powerful heart tonic, causing an increase in the arterial tension and in the fulness of the pulse, exciting diuresis and diminishing œdema and dyspnœa—acting, in fact, very similarly to digitalis. Dr. Paulet was induced by these researches to make trial of Coronilla varia in heart cases. He employs a tincture made from the entire plant (1 in 5), also a powder made from the flower. The dose per diem of the tincture is from half a drachm to a drachm, and that of the powder from fifteen to thirty grains. These preparations, though they have a strong characteristic odor, are not nearly so disagreeable to the taste as those of Coronilla scorpioides. Details are given of two very severe cases in which these preparations of the Coronilla varia gave almost immediate relief. M. Poulet recommends this drug also in other heart cases where digitalis has been used, and where it seems to have been given for too long a period, or, as sometimes occurs, where it has begun to act on the gastro-intestinal canal.—*The Lancet.*

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Original Articles.

THE NATURE AND FREQUENCY OF INEBRIETY, WITH REMARKS ON ITS TREATMENT.[1]

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IN the past year there has been an enormous interest shown in the subject of inebriety, especially in lay circles and in the public press. This interest has centred upon two things—the treatment of inebriates and the question of the physical basis of drunkenness and intemperance. The view that these conditions are the expression of a disease has been exploited without contradiction until the public has perhaps begun to believe that alcoholic indulgence is always something of which persons are simply the unfortunate and irresponsible victims.

The purpose of this paper is to make a brief contribution to the subject of the nature and characteristics of inebriety as distinguished from drunkenness, and to its frequency, to which I shall add a few words on the subject of treatment. My remarks will be based largely on a study of the cases of alcoholism, in all its forms, which are brought to Bellevue Hospital, numbering nearly four thousand yearly. Three years ago I made a clinical analysis of the cases, which entered the hospital in 1889.[2]

Recently I have made a study of 614 cases of male alcoholics entered in the last part of the year 1891. In these latter observations I made particular inquiries as to the drinking habits and ancestry of the patients. These cases represent persons from all walks in life, the proportion being about as follows:

	Per cent.
Professions	3
Clerks	15
Tradesmen	25
Laborers	35
Drivers	8
Others	17

There is some preponderance naturally of the lower and laboring classes, yet the list of occupations includes many persons in all walks of life, and the analysis corresponds in most respects to that made by Dr. Mason of inebriates at Fort Hamilton. The observations made upon them have therefore, I believe, value as a social and pathological study.

I shall discuss now only the male cases, as it is concerning their histories that my inquiries have lately been directed. They make up about three fourths of the total. About one-half are in a condition of plain drunkenness. From this they usually recover in a day or two, are discharged, and sometimes return again in a few weeks or months. If they return often they receive the name of "rounders" and "bums." The other half consists of persons who are verging on, or already in, delirium tremens, or in alcoholic coma, convulsions, or mania. The patients are classified therefore as—1, plain "drunks;" 2, delirium tremens; 3, febrile delirium tremens; 4, mania a potu; 5, miscellaneous and complicated cases. About ten per cent. die either from a complicating pneumonia, from delirium and exhaustion, or meningitis. A smaller per cent. becomes insane. The most frequent complicating condition is epileptic convulsions. Among 350 there were 11 cases, or over three per cent. Next comes insanity or dementia, two per cent. Phthisis and nephritis were found in 5 and 2 cases, respectively, out of 350. Rheumatism occurred in 2 cases. Multiple neuritis occurs in about 1 in 400 or 500 cases of men; very much oftener in women—one or two per cent. Drinking habits in the parents were reported in all but 10 out of 350. Usually the father is the drinker; in 8 cases both parents; in 1 case the mother alone. The age, sex, race, and occupation I have given in a previous study.

The question that has often presented itself was, How many of these persons who were brought to the hospital suffering from acute alcoholic intoxication were victims of the disease, so called, of inebriety?

I have spoken of inebriety as a "so-called" disease not because I doubt its existence but because, as the word is often used, it includes a vast number of cases that belong to social and moral reformers, not to physicians alone.

In a work on inebriety by Dr. Norman Kerns we are told that no disease is more common than that of which he writes, and that there are but few families in which some member is not a victim. Inebriety, according to the same author, is a disease characterized by an overwhelming desire to get drunk. He seems to include nearly every person who drinks, and at times gets drunk, in this class, and the ordinary lesions of chronic alcoholism are spoken of as being the pathological basis of the disease. I cannot agree with such sweeping statements or such comprehensive definitions.

It is impossible, to be sure, to define inebriety with precision or to establish arbitrarily its exact characteristics. But it is, I believe, the wiser and safer course to limit as much as possible the class of cases to be placed in this category. For we know, in the first place, that inebriety, however loosely defined, is not a disease which has a structural or anatomical basis that can be recognized. We know that it is a symptom only of psychopathic and neurasthenic states. The lesions found in chronic inebriates are the consequence, not the cause, of their indulgence. Neither inebriety nor drunkenness is ever, strictly speaking, a disease. It is a symptom only. It is a symptom, on the one hand, of a degenerative nervous system or of an acquired neuropathic state, and, on the other hand, of a weak, self-indulgent, and perhaps depraved character. Between these extremes there are all sorts of gradations. But most habitual drunkards are much nearer the class of those who are weak and self-indulgent in character than of those who drink from the impelling force of a morbid craving

In a certain sense, and taking a purely material standpoint, criminals, sensualists, libertines, drunkards, are all the victims of a disease, *i.e.*, of a constitution and personality which are abnormal. But neither pathology nor economics is yet ready to adopt this view. We still consider disease to be a disorder of the body and its organs; vice to be a disorder of the character, for which the individual must be held responsible. When a man has a depression of spirits, gets nervous and worried, takes to drink, and drinks steadily, more and more, till he makes a wreck of himself, it seems to be the custom of the propagandists of the gospel of inebriety to say that he has caught their disease. But this may not be so. If it were morphine instead of alcohol, we should say that the patient had a morbid habit or craving, not that he had got a disease. We are told, again, that neurasthenia

[1] Read at a meeting of the New York Academy of Medicine, Section on Public Health, February 17, 1892.

[2] New York Medical Journal, June 14, 1890.

causes inebriety, that fracture of the skull, blows on the head, and stricture of the urethra do the same.

This is a loose way of dealing with the subject. Trauma, shocks, and local diseases, we know, cause neurasthenic states, and a craving for drink, or for women, or tobacco, or candy, may be one of the symptoms thereof. But the craving is only a part of the symptoms.

I say again, then, that we ought to limit the application of the word inebriety, for the present, as rigidly as possible.

I should define inebriety as a periodical psychosis characterized by attacks of uncontrollable craving for drink, the craving being for quantity not for quality, and the patient being perfectly or relatively abstinent between his seizures. Inebriety is a periodical convulsive or fulminating psychosis, a form of instinctive insanity. Besides this typical form there is another, allied to it. In this the patient, who is neurasthenic and melancholic, takes liquor for the purpose of drowning his discomforts and cares. The first drink paralyzes his will, excites the drink instinct, and he takes another and another. He cannot stop himself, and he plunges into a prolonged debauch. After recovering from it he remains temperate until another period of temptation occurs. He cannot drink temperately at any time, because a small dose of liquor flies to his head or disturbs his stomach; hence he abstains except when his periods of depression occur. Here the periodical indulgence is much more truly symptomatic of a neurasthenic state than is the former type.

Of course there are cases which shade from the foregoing types into those of common drunkenness; but I think that the above classification is as nearly accurate as is at present possible.

The so-called habitual inebriates who drink and keep more or less drunken the whole year through should be classed as persons who have depraved and morbid habits, with, in many cases, the secondary diseases which are the result, not the cause, of their indulgence in liquor.

Among 350 cases whose histories I have especially studied the following is a fairly accurate analysis:

Steady drinkers	261
Sots	15
Occasional drinkers	25
Periodical inebriates	18
Unknown	31
Total	350

By the steady drinkers I mean a class of persons who drink every day whenever occasion offers. They get drunk, as a rule, deliberately on holidays, and Saturdays or Sundays. The sots, or as they are technically known to hospital attendants, the "bums," are persons who keep themselves continuously as drunk as their means and work allow.

The proportion of persons who are, strictly speaking, inebriates is thus seen to be about five per cent. This estimate is not too low, for the patients are rather inclined to make as good a story as possible of their habits.[1]

When it is remembered that besides the 4,000 alcoholic cases taken in yearly at Bellevue, there are about thirty thousand cases of plain drunkenness brought yearly to the station-houses, it will be seen that the inebriate psychosis is really a very rare one, and that plain *drunkenness is to inebriety about as* 700 *to* 1.

This conclusion is, I believe, borne out by the personal experience of physicians, although we, as a class, are brought professionally into relation chiefly with the inebriate and insane alcoholics.

The vast majority of excessive drinkers then, are, I believe, persons who have gradually acquired a taste for alcohol, or who resort to it more or less deliberately for purposes of conviviality, and to drown the cares and sorrows of an uncomfortable environment.

[1] I am very greatly indebted to Mr. Monell, the attendant in charge of the Bellevue cells, for his industry and care in helping me to secure data for this paper.

Treatment.—In dealing therapeutically with alcoholic indulgence, therefore, we should be careful to estimate to what extent this indulgence is a morbid habit, and to what extent it expresses a degenerative psychopathic disease.

In all cases self-restraint and removal of bad influences is an important factor; but in the rare psychosis of inebriety good resolutions are of little avail and medical treatment is imperative. In the common chronic alcoholic states the "mind-cure" and isolation are vastly more important factors. I do not deny that in most of these cases the bodily system has undergone a change by reason of its excessive and constant poisoning by alcohol. The nutrition of the nervous system is so perverted that it requires for its comfortable action the presence of alcohol. This change of nutrition might be looked upon strictly as a disease, but it has this peculiarity that by an effort of the mind the craving can be made eventually to disappear. We cannot will away the true neuroses, like epilepsy, chorea, neuralgia, and functional spasms, or the true psychosis, like mania. Furthermore, if such acquired appetites are to be regarded simply as pathological, then we must add to our list of diseases the craving for pie, the habit of chewing gum, of eating candy, of taking an egg for breakfast, without regular indulgence in which some people would feel most uncomfortable.

Nothing, it seems to me, is more unscientific than to pronounce as inebriety all the curious mental disorders and nervous phenomena caused by a few drinks of liquor. A man may have epilepsy, insanity, neuralgia, trance states A drink of liquor brings out these symptoms, but he is not, for all that, a sufferer from inebriety. That is only one symptom of many.

A few words further in regard to treatment. The suggestive treatment, and hypnotism, including the much-lauded Keely cure, do not and cannot cure true inebriety of the types described. This has to be treated as one would treat any degenerative psychosis. All forms of tonic treatment, the water-cure, electricity, pure air, good food, removal from any depressing or irritating surroundings, are indicated here. There is one drug which has been long known to have a certain degree of specific effect in inebriety and in alcoholic intoxication. This is strychnia. Its use both in acute and chronic alcoholism is undoubtedly attended with good results. In acute alcoholism, when the system is overwhelmed with the poison, it is my custom to give it in doses of gr. $\frac{1}{60}$ every two or three hours.

In chronic alcoholism and in inebriety it should be given in good doses for a considerable time.

I am told that strychnia is really the basis of the Keely cure, and I presume that this drug, together with the moral influences, have done all that really has been done by the mythical gold injections.

In acute alcoholism my experience has covered a wide range of therapeutic endeavor. The old opium treatment was supplanted years ago by the use of bromide and chloral. This in turn was followed by the use of hyoscyamin (often with deadly effect) and morphine, and of the newer hypnotics, such as paraldehyde, sulphonal, etc.

As the result of a good deal of experience I have come to the conclusion that, in ordinary acute delirium of alcoholism, chloral in large doses (gr. xx. to xl.) repeated in smaller doses in two or three hours, and combined with digitalis and strychnia, is the safest and surest means of controlling the excitement and securing sleep.

This formula may be used.

℞. Chloral hydrat. ..... ℈ xvj.
Ext. digital. fl. ..... ♏ xlv.
Strychniæ nitrat ..... gr. ¼.
Aquæ ..... ʒ iv.

M. Sig.: Dose ʒ ij. to ʒ iv., repeated in smaller amount every two hours if needed.

Such treatment is of course combined with a preliminary laxative, and with careful diet of hot milk and beef-tea with red pepper.

In febrile delirium tremens depressants must be used with care, and strychnia given hypodermically every three hours. Cold baths or cold wet packs, with friction, must be applied every two or three hours while the temperature remains high.

The use of hypodermic injections of morphia is very rarely needed, and I do not advise it. The use of hyoscine and hyoscyamine is, in my opinion, positively unjustifiable except in mania a potu. Here there is a mental disease, not an intoxication with alcohol, and a paralyzing drug like hyoscyamus may be safe.

In conclusion, I would restate the points I desire to make, as follows: Inebriety is never, strictly speaking, a disease. It is a symptom of a neuropathic or psychopathic constitution, and is usually only one of numerous other symptoms. In its most common and its typical form it is a periodical psychosis.

Of the enormous number of persons who drink intemperately a very small proportion are strictly inebriates. In this city there are at a rough estimate seven hundred drunkards to one inebriate. Of the cases brought to Bellevue about five per cent. are inebriates. Inebriate specialists see more, relatively, of true inebriety. In large general hospitals the percentage is nearer the normal, and a better point of view is gained. Inebriety is a rare disease relatively. It is but slightly amenable to moral influences, hypnotism, or suggestion, and is not at all affected by chloride of gold or any specific medicine. It is helped by suitable general treatment. Habitual drunkenness, like other bad habits and morbid cravings, is helped by moral influences, self-restraint, as well as by proper medical treatment. The results of treatment at Homes, where restraint and moral influences are chiefly applied, are apparently as good as those where all forms of alcoholic indulgence are looked upon and treated as a disease.

50 West Forty-sixth Street, March 10, 1892.

REPORT OF A CASE OF COMPLETE NON-MENSTRUATION.[1]

By HUBBARD WINSLOW MITCHELL, M.D.,

new york.

The subject of this sketch, Miss E. F——, is a young unmarried woman, twenty-four years of age. She was born in Ireland, and, until her emigration, lived quietly at home with her parents. In March, 1888, being then twenty years of age, she left home and came to this city. Up to that time no signs of menstruation had appeared, and, as she tells me, she had never heard that such a function existed. Her mother had never enlightened her upon this point. Soon after her arrival in New York she obtained a situation as a waiting-maid, and her fellow-servants in the house where she lived, and also her sister in-law, noticed after a time that she was not unwell at each month. Like all uneducated persons, these friends filled her ears with wild stories about the dreadful effects likely to follow the absence of menstruation, and she was told that she would eventually become insane. This worried her greatly, and as a consequence she became pale and anæmic, with loss of flesh, appetite, and sleep, and she suffered from a long train of imaginary nervous symptoms.

On April 7, 1889, she presented herself to me for treatment, and I found her in the above condition. She insisted upon a uterine examination. This was made, but revealed no pathological condition of her uterus. She was told to pay no attention to the fact that she had never menstruated, and upon my assurance that she would not die, or become insane, nor a chronic invalid, she soon forgot that she differed in any way from other girls.

A course of chalybeate tonics, generous diet, and proper care of her general health soon restored her to her normal condition, and she has remained ever since a perfectly healthy girl. She has been under my close observation ever since she first consulted me, in April, 1889.

In January of the present year she submitted to a thorough examination, with the view of having her case reported in this paper, although she was entirely free from any abnormal symptoms. The examination revealed the following facts, touching her physical condition:

Weight, 105 pounds (her weight before leaving Ireland was 130); girth of chest, twenty-nine and a half inches; girth of abdomen, twenty-five inches; girth of pelvis, thirty-four and a half inches; girth of thigh, upper-third, twenty inches; heart healthy, sounds and rhythm perfectly normal; pulse, 76; lungs healthy, respiratory murmur clear and distinct over every part, respiration easy, and twenty per minute; the mammæ are well developed, firm, and round, nipples small, no areola; her skin is soft, smooth, and healthy; figure erect, plump, and symmetrical; her bowels are regular; kidneys, healthy. She has a good appetite, sleeps well, and in no particular shows any sign of ill health.

The uterine examination reveals a short vagina, and a small, round cervix uteri, rather less in size than the average, and projects very slightly into the vaginal canal. Depth of uterus from os to fundus, two and a quarter inches. This would show that the organ is very nearly normal in size. Of course, no examination of the ovaries could be made, but there is no external sign of abnormality present. This examination shows that she is a well-developed healthy young woman, performing all her physiological functions naturally and regularly, except the single function of menstruation. It might be asked, Is there not a vicarious menstruation to take the place of the natural function? There is not. I have watched her very closely during the past two years, and have not detected the slightest disturbance of the symptom, nor the least periodical excitement. Hence it is safe to say that the physiological function of menstruation is totally absent in this girl.

The essential part of the menstrual function is a growth and maturity of the ovum or egg, in the Graafian follicle of the ovary, occurring at regular and stated intervals, and the discharge of this egg from the ovary. When the egg is fully matured by a process of physiological growth in the ovary, the thin and weakened walls of the Graafian vesicle, with its superjacent covering, are ruptured and the ovum passes, with its serum and blood, into the fimbriated extremity of the Fallopian tube. Here the peristaltic action of the tube, and the vibratile movements of its lining cilia convey the delicate ovum in safety to the cavity of the uterus. This is a physiological function of menstruation or ovulation, as it appears in its normal condition, and renders the female capable of the function of reproduction.

The secondary process of reproduction of the egg after it has found its way into the uterine cavity is quite independent of menstruation. Upon reaching the cavity of the uterus it remains for a time awaiting impregnation through the sexual congress of the male, if this does not take place the egg soon loses its vitality, and is conveyed away from the uterus by its secretions. This process of menstruation is the natural and usually the only one observed in the human female, occurring in her generally once every four weeks, and this periodical occurrence may be taken as evidence that the ovaries are in a condition of healthy activity, and renders her capable of the function of maternity and propagation.

In the lower animals forming the great and important order of viviparous mammalia the reproductive function is the same, and depends for its fulfilment, on the part of the female, of the production of an egg in the special follicle of the ovary, and its subsequent discharge therefrom. This discharge of the egg from the ovary in

[1] Read before the New York County Medical Society, February, 22, 1892.

these animals is accompanied by a peculiar condition of excitement known as "heat," "rutting," "œstruation," with more or less flow of blood. This condition is seen in such animals as the rabbit, dog, and cow, and also in the lower apes, or the cynomorpha, and especially in the higher apes or anthropomorpha. Among these last are the lemurs, chimpanzees, orang-utans, and the gorilla. In these apes the function of œstruation proceeds with a physiological regularity. The period of ovulation in some of the lower animals, however, differs. In some it is short, and in others it occurs at longer intervals.

If we descend still lower in the animal scale, we also find that the production of an egg within the ovary, suitable for fecundation and reproduction, is the chief element in the physiological process of propagation. In birds, and the higher reptiles, such as the alligator, crocodile, turtle, and others, the egg is fecundated within the body of the female, and incubated externally to her body by the proper application of artificial heat. These animals usually lay their eggs in some suitable and sheltered place, and are hatched by the warmth of the sun. In fishes, which occupy a still lower plane in the animal scale, the eggs, which are produced by the female, are deposited in some place of safety, where they are visited by the male and duly fertilized, after which incubation takes place without further care from the female, and the young are then duly hatched. This is true also of frogs.

In all these forms of animal life, from man down to a fish, an egg must be produced by the female in organs adapted for that special work. It is this production of an egg in the ovary that constitutes her a normal animal, with normal and complete physiological functions.

Cases are on record where impregnation has taken place in the human female without menstruation ever having taken place, and even where the hymenal membrane was not ruptured; and cases are also on record of complete sterility where menstruation has occurred regularly, and apparently in a normal manner; but in all such cases it is extremely probable that the real cause of these abnormalities can be easily detected and traced to its exact origin if a careful examination is made of each special case. It is, however, rarely indeed that we have an opportunity of seeing a young and perfectly healthy woman, normal in every function, but in whom there is a total absence of all the phenomena belonging to that special function of menstruation. In the present case this function has remained perfectly dormant from the period when puberty usually occurs to the present time.

The question may be raised, Is this young woman like others of her sex, and having sexual instincts and desires? As far as is known these are entirely absent in her. The mons veneris is almost destitute of hair, and the labia are rather undeveloped. The clitoris is about normal.

A single and isolated case like the one under consideration is not sufficient to form a judgment of the effects of a total absence of menstruation, but it is extremely interesting as it shows that this peculiar function, usually considered so important and so essential to the health and well-being of an individual, may be totally wanting, and yet the woman enjoy in every other respect perfect and uninterrupted health.

747 Madison Avenue, February 22, 1892.

Congenital Peritonitis.—Dr. Anton Genersich, of Clausenburg, recently exhibited at a meeting of a Hungarian Pathological Society a case of peritonitis occurring in an infant which had doubtless originated from perforation of the small intestine before birth.

Salipyrin is a chemical compound of antipyrin and salicylic acid, 57.7 parts of the former to 42.3 of the latter. It occurs in the form of small colorless crystals, slightly soluble in water but freely so in alcohol, having a mildly astringent subacid taste. It is supposed to combine therapeutically the properties of its two component parts.

RECOVERY, WITHOUT SUPPURATION, FROM A COMPOUND DISLOCATION OF THE ANKLE, IN A PATIENT OF FORTY-FIVE.

By R. R. EGAN, M.D.,

Assistant Surgeon, United States Army.

The year 1861 marks the transition from septic to antiseptic surgery. Lister, in that year, began to cover wounds with lint steeped in carbolic acid. This was supplanted by the spray and protective. The spray in its turn was replaced by irrigation, with disinfectant solutions. In our day, irrigation is rapidly giving way to Arnold's steam sterilizer. Eulogy after eulogy has been heaped on Sir Joseph for the transformation, while the name of the great military hygienist, Parkes, has remained almost unnoticed. Yet it is difficult to say to whom "more than half" the credit belongs. The complicated system of Lister is fast being resolved into cleanliness and hygienic surroundings, for which Parkes always contended.

The "antiseptic system" was first introduced in the treatment of compound dislocations of the ankle-joint, at the Royal Infirmary, Edinburgh. Great advantages were claimed to follow its application. Suppuration was said to be prevented and the utility of the limb restored. By the older methods death was said to be common. In a lecture delivered February 14, 1870, Lister stated that Syme informed him that at one time, in looking up the hospital records, he found that the last fourteen cases of compound dislocation had ended fatally.[1] Syme's experience was, however, exceptional. In a large number of cases collected by Culbertson and Andrews,[2] the mortality under various modes of treatment was as follows: Syme's amputation—Cases, 325; died, 30; mortality, nine per cent. Pirogoff's amputation—Cases, 130; died, 24; mortality, eighteen per cent. Amputation lower third of leg (traumatic)—Cases, 148; died, 48; mortality, thirty-two per cent. Excision of ankle (not from gunshot)—Cases, 112; died, 19; mortality, twelve per cent. Dr. Andrews adds: "In ordinary practice the percentage of mortality will be found less than in the above statistics, which include a large number of cases from the hospitals of Vienna and Paris, where a fearful mortality accompanies all surgical operations."

Sir Astley Cooper, in pre-antiseptic days, gave forty-four recorded cases without a death.[3] Before the days of this great surgeon amputation was always performed for the accident. In his treatise on "Fracture and Dislocations"[4] he asks, "Is amputation generally necessary in compound dislocations of the ankle? My answer is, Certainly not. Thirty years ago it was the practice to amputate limbs for this accident; the operation was then thought absolutely necessary for the preservation of life by some of our best surgeons, but so many limbs have been saved of late years—indeed, I may say so great a majority of these cases exist—that such advice would now be considered not only injudicious, but cruel. It is far from being my intention to state that amputation is never required; I have only to observe that the operation is unnecessary in the greater number of these accidents." Further on he states: "From all I have seen I should not hesitate to advise the immediate removal of the limb where the lower heads of the tibia and fibula are very much shattered; where, together with the compound dislocation of these bones, some of the tarsal bones are dislocated and injured; where any large vessels are divided and cannot be secured without extensive enlargement of the wound and disturbance of the soft parts; where the common integuments with the neighboring tendons and muscles are considerably torn; where the constitution of the patient is enfeebled at the time of the accident, and not likely to endure pain, discharge, or long confinement."

[1] Lancet, July, 1870.
[2] International Encyclopædia of Surgery.
[3] Mr. Croly: New York Medical Journal, January 25, 1890.
[4] American edition, 1844.

But, as will be seen from the following, his resort in exceptional cases was not to amputation, but to incision of the ends of the bones: "If the dislocation can be easily reduced without sawing off the ends of the bone; if the bone be not so obliquely broken but that it remains firmly placed on the astragalus when reduced; if the end of the bone be not shattered (for then the small loose pieces of bone should be removed, and the surface of the bone be smoothed by the saw); if the patient be not excessively irritable so as to occasion the muscles to be thrown into violent spasmodic actions, by the attempts at reduction and which lead to subsequent displacement when the limb has been reduced; the bones should be at once returned to their places, and the parts should be united by the adhesive influence; but rather than amputate the limb, if the above circumstances were present, I should certainly saw off the ends of the bone."

His opinions are quoted at length, because they dominated over the medical world from 1820 to about 1850. They were followed by Malgaigne[1] and all the prominent surgeons on the Continent. Later we shall see that they still remain the recognized treatment at the present day. Between 1850 and 1860 Syme's love for the amputation which bears his name led him to apply its use to treatment of this injury. In his "Surgical Works," edited by Maclean,[2] he states: "Compound dislocation of the ankle-joint, either with or without that curious displacement of the astragalus which results from falling with great force on the heel, was formerly held to require amputation of the leg. The authority of Sir A. Cooper's experience encouraged attempts to preserve the limb in these cases; and in private practice both forms of the injury are now frequently conducted to a successful issue, though in general through a protracted process of recovery. But it must be admitted that many lives have been lost, especially in hospitals, from trying to retain the limb. In the Royal Infirmary I find that of thirteen patients who had suffered compound dislocation of the ankle, and were not subjected to amputation, only two recovered; and even in the event of recovery the foot generally remains in such a state of stiffness, weakness, and insensibility to external impressions, as to be rather an incumbrance than a support to the patient. Now all this danger, tedious confinement, and permanent discomfort might be obviated by amputating the foot in the first instance. So long as the only alternatives were an attempt to preserve the limb and amputation of the leg, there was a strong inducement to abstain from operation. But if the safety and speedy recovery of the parts may be insured by taking away merely the part of the limb which, in the circumstances, can be of little value, either as to use or ornament, while at the same time a stump is produced in all respects preferable to a shattered, stiff, irritable foot, I think there should be little hesitation in resorting to amputation at the ankle-joint under the circumstances in question."

The reaction led by Syme only obtained a partial sway over the minds of medical men. In very severe injuries they counselled amputation immediately performed for the safety of life and limb. In less violent injuries, with a sound constitution, they advised conservative surgery. If the bones could not be reduced without force, they deemed excision advisable. In this class stood Ferguson, Holthouse, Erichsen, and Gross. With the advent of antiseptics conservative surgery received a fresh impetus. Its status at the present day is fully illustrated by the recent contribution of Mr. Croly, of Dublin.[3] He treated conservatively a case of compound dislocation of the tibia and fibula forward on the dorsum, the entire front of the joint being laid open. Also a patient whose right tibia protruded three inches through the soft parts. At the same time the lower end of the fibula was comminuted and the foot forcibly everted. His third case sustained a compound dislocation of the tibia and fibula outward. All these recovered, with strong useful limbs, and sustained the opinion of Sir Astley Cooper "that amputation should not be performed in compound luxations of the ankle-joint." Excision should, he believes, be resorted to under the following exceptional conditions: First, where the bones are denuded, and there is difficulty in effecting reduction; second, where the fracture of the tibia is oblique, so as to be unable to rest on the astragalus; third, to relieve spasm of the muscles; fourth, to diminish local irritation and hasten cure.[1]

The following case came under observation soon after the appearance of Mr. Croly's communication:

S. S. B—— was admitted on the afternoon of March 18, 1891. The patient, a man of forty-five years of age, was engaged with several other men in pulling down some old buildings. He was inside one of the buildings removing a rafter from the roof, when, without any warning, the whole house collapsed, and fell in, throwing the patient to the ground. He was struck on the head and shoulders, a beam coming on the outer side of his leg (left). He was released as soon as possible and taken into the open air. He was found to have severe injury to his ankle, from which blood flowed freely. He was carried by the bystanders to a house and given some whiskey. There was no unconsciousness. A constricting band was placed above the ankle until my arrival.

When seen by me three hours later there had been considerable loss of blood, but his pulse was good. A wound of a little over three and one-half inches was found on the inner side of the left ankle, through which the tibia projected about one inch. The fibula was found fractured about three inches from the external malleolus. The foot turned outward at almost a right angle. When compression was removed, blood welled out freely. It was found that the tibia could be reduced and the foot brought into nearly its normal position. Although the patient declined to take ether or chloroform, reduction was effected. Pulsation was discovered in the artery at the external malleolus. The foot and leg were cleansed with a corrosive sublimate solution, 1 to 3,000. The tibia was reduced with a gush of blood from the joint; the foot was with difficulty held in place while a plaster-of-Paris bandage was applied as high as the knee over a layer of cotton wool. A compress of iodoform gauze was retained over the wound by the bottom of a large-sized bottle, while the plaster was applied round it. When the plaster was sufficiently hard, the bottle was withdrawn, leaving a window through which the wound could be dressed. No attempt was made at drainage, but an iodoform gauze compress was retained over the wound by a cotton bandage placed over that of the plaster of Paris. The leg was elevated on pillows. During the night enough of blood soaked through the compress to stain one of the pillows. A fresh compress was accordingly applied to the wound the following morning. A stain of blood appeared on the compress in the evening, but it was not deemed necessary to change it then. His temperature at 7 P.M. was 100° F. and his pulse 86. On the following two days the temperature was about 99° F. On March 22d it was normal, and continued so during the remainder of his treatment. The patient was, however, at times restless, and complained of pains during the night. On March 24th, as it was believed that some blood had infiltrated into the cotton wool and would undergo decomposition, the plaster splint was removed, fresh cotton applied, and the splint readjusted. The wound was found healthy, in good apposition, and without the sign of any discharge. It was covered with iodoform and dressed with sublimated gauze and a retaining cotton bandage. The patient remained in excellent condition. He was given one ounce of sherry before his breakfast and dinner, and a whiskey "nightcap" to insure sound sleep. Early in April the plaster splint showed signs of cracking. It was strengthened by three strips of iron and a fresh plaster

[1] Dislocations, Paris, 1847. [2] Philadelphia, 1866.
[3] Transactions of the Royal Academy of Medicine in Ireland, vol. viii. 1890.

[1] Lancet, September 26, 1891.

roller. The part of the wound posterior to the malleolus was found to have healed. The portion over and anterior thereto was found covered with healthy granulations. From this period the wound was dressed once a week. There was no discharge at any time, save from the granulations, which became exuberant, and had to be touched with lunar caustic. About the 15th and 20th of the month the patient suffered from slight attacks of diarrhœa. Although these were believed to be due to errors in diet, yet it was deemed advisable to dress the wound with boric acid instead of iodoform. On May 10th the wound, save at one point, was healing under a crust. The plaster was accordingly removed and the patient allowed to go around on crutches. The foot could be freely flexed and extended. On assuming the erect position the limb became greatly swollen. Bandages were applied, but extreme difficulty was experienced in restoring the circulation. Notwithstanding every effort the wound again opened toward the end of May, as a result of this swelling. This accident retarded his progress, and confined him to bed for nearly a month. He was then fitted with an elastic stocking.

Early in September he passed from under observation. Although he had grown excessively stout he was able to walk very nicely with or without the aid of a cane.

The points of interest in the above case are, 1. The age of the patient—forty-five years. 2. The absence of suppuration. 3. The retention of mobility in the joint. 4. The absence of antiseptic irrigation or drainage-tubes in the treatment.

The object kept in view was to obtain union of the deeper parts of the wound as soon as possible. Corrosive solutions were thought to interfere with healing without suppuration. In the words of a recent writer,[1] "There is abundance of evidence to lead to the belief that normal tissues and fluids of the body possess the power of rendering inert many kinds of organisms which may have gained access to them. This function must, therefore, be diminished or destroyed by agents which bring about alterations in the constitution of these tissues. Such changes are known to follow the application of sublimate solutions, which may cause a condition of superficial necrosis by which the inroads of infectious organisms are not resisted, as they would have been had the tissues been left in their natural condition."

Had the interior of the joint been contaminated it would have been cleaned by the use of sterilized water.

A drainage-tube was deemed unadvisable on account of the fact that it gives rise to irritation like any other foreign body. When suppuration already exists, a drainage-tube is a necessary surgical evil. In a clean, healthy wound there must be some special indication before it is used. As a routine practice, the introduction of a drainage-tube always seemed to me unwarrantable. The following opinions of Park, which appeared since the above was written, seems especially worthy of consideration. He says, *loc. cit.*, "Our predecessors drained to permit escape of pus which they knew would form. Until lately we have drained to prevent its formation. We seem now to be on the eve of an era where we need to drain but little, or not at all. We resort to drainage now only of necessity in septic or infected cases. In other cases we drain mainly from habit or from fear. Indeed, when we start afresh, as it were, without previous infection, the practice of drainage is a confession of fear or of weakness, both of which are alike unscientific and unfortunate. We have learned that a little blood-serum is an advantage rather than a detriment, and we do not need to guard against its presence as we used to. It seems to me that in many cases, where all other aseptic requirements have been met, we do more harm than good by the use of drains."

Has the antiseptic system of Lister really improved the treatment of compound ankle dislocations? I am inclined to think not. The results of Sir A. Cooper have not been surpassed, if they have been equalled, by any method of treatment yet invented. Emboldened by the real or supposed advantages of Listerism, surgeons have been disposed to trust more to conservative treatment, and the amputations of Syme have been discarded. But that the throwing into the joint of strong antiseptic solutions, which produce a certain amount of tissue-necrosis, while the edges are closed, and pressure made to force it into every cavity; that their application to the surrounding integument, where, as has recently been shown, microorganisms are too deeply situated to be affected thereby; that, in fine, these procedures can prevent the occurrence of suppuration, is a subject on which there is room for a reasonable doubt

Lawson Tait needs only boiled water, a sewing needle, scalded silk, knives and catch forceps, cotton and boric acid to do an abdominal section.[1] To him we are specially indebted for perfect cleanliness of the wound, and to Edmund Parks for perfect hygienic surroundings. And is there aught besides?

FORT WARREN, MASS.

[1] Park: American Journal of the Medical Sciences, November, 1891.

Plants with Poisonous Odors.—There are few flowers whose perfume is actually deadly. It is said, however, that the flowers of the kali mujah, or death plant, found in the islands of Java and Sumatra, emit a perfume so powerful as to overcome, if inhaled for any length of time, a full-grown man, and killing all forms of insect life approaching it. This perfume resembles chloroform in the effect, producing insensibility. All insects and birds seem instinctively to avoid the plant. Linnæus mentions a case in which the odor of the rose bay proved fatal, and there is a plant known to the Persians as kerzerch, the perfume of which they believe will kill a man if he inhales it after a hot south wind has passed over its blossoms. Many other plants, though not having deadly perfumes, nevertheless give forth odors which are decidedly hurtful. The pœdaria fœtida excites fever and headaches in those inhaling it. One of the magnolias emits an odor which produces in many persons nausea and sickness, and the poison sumach and poison logwood are apt to lead to similarly unpleasant effects.—*Brooklyn Eagle.*

Is the Writer a Bald-head?—Dr. T. J. Hutton, of St. Paul, Minn., sends us the following on "The Philosophy of Bald-headedness:" "Nature having fixed man's form to her satisfaction is now putting a head on him, enlarging and fertilizing his cerebrum. By fertilizing his cerebrum is meant increasing its productiveness, and by increasing its productiveness is meant enlarging the scope and intensity of thought and ideation. And this increased mental activity requires an increased supply of blood; for not only where there is literal irritation is there 'ubi fluxus,' but wherever there is increased hæmic cellular or molecular action of any kind, or from any cause, there also is 'ubi fluxus.' The average twelve-year old boy of to-day thinks more in one day, if he does not swear more also, than grandpa of a century ago did in a week. This increased brain activity requires, as we said, an increased supply of blood, hence a greater portion of the blood-supply pumped into the carotids now goes to the brain proper than formerly, and hence a smaller portion now goes to the skull and scalp than formerly, so there is less pabulum to run to hirsute adornment than in ye olden time, and it constantly diminishes. We get brains for hair—a profitable exchange."

Died of Fumigation.—An unusual cause of death was disclosed at an inquest held a few days since. In a house where had lately been scarlet fever a young woman fumigated a room by burning sulphur in it. Entering the room the next day she was overcome by the fumes, and, although she speedily left the apartment, she died in a few hours.

[1] Lancet, September 12, 1891.

MEDICAL LEGISLATION IN 1891.

By HENRY A. RILEY, A.B., LL.D.,

NEW YORK.

(Continued from p. 11.)

Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kansas.—In Delaware the legislation for the year was not specially noticeable, but the growth of the insane element of the population has been as remarkable as in other States and required the enactment of new measures.

A law was therefore passed with this preamble: "Whereas the buildings of the Delaware State Hospital for the Insane in two years' use have been found inadequate; and whereas it is fitting and proper that the institution should be a credit to the State and in every respect rendered adequate and fully equipped for the noble and humane purpose for which it is intended." An appropriation was then made of $30,000 to purchase additional grounds, erect new buildings, and repair those now in use; $20 000 was also appropriated for the annual support of the hospital Another law transferred the Insane Department of Sussex County to the State Board of Trustees for the Insane. The buildings and appurtenances were authorized to be conveyed to the State Board for $8,000. The name of the Insane Department and Hospital was directed hereafter to be the Delaware State Hospital at Fernhurst. In localities where there are no local boards of health the President of the State Board was authorized to direct any member of the Board to investigate complaints. The State Board was to have all powers and remedies now given by law to local boards. The pharmacy law was amended so as to require three years' continual practice in a retail drug store of a qualified assistant.

In Florida a law was passed in regard to the correspondence of inmates of insane asylums, which shows that the public clamor regarding alleged abuses in asylum management has had an effect upon legislators. A similar law was passed in Georgia, and will be referred to in its proper place.

The Florida statute has a preamble in which some rather strong statements are made, and is as follows: "Whereas the imprisoned inmates of insane asylums are outside the pale of justice and beyond the reach of the laws by having no means of access to the law while deprived of their post-office rights; and whereas those incapable of self defence are justly entitled to the protection of the same laws as shield all other citizens. Therefore justice demands that this link which now severs them from access to the laws should be legally established." The law then proceeds to declare that every inmate of any public or private asylum can choose one person to whom he or she can write without any interference or inspection. The correspondent can be changed every three months if desired. The superintendent of the asylum is required to furnish writing materials, postage, etc., to the extent of at least one letter a week, if the patient does not have such articles. The letters when written are to be dropped in a post-office box by the writer, accompanied by an attendant, who must see that they are directed to the correspondent. If not directed to such person they may be retained, and are subject to the disposal of the superintendent.

It is the duty of the superintendent to keep posted publicly a complete list of the correspondents of the inmates, and to request of such persons to write their names on the outside of the envelopes when replying to the patients' letters. All such letters when received are to be delivered at once to the inmates without inspection, unless they contain some substance which possibly might be used in medication. Such letters are to be opened in the presence of a competent witness and the substance delivered to the superintendent, but the letter is to be given to the person to whom it is directed.

The penalty for a violation of the law on the part of the superintendent or any official is imprisonment not to exceed sixty days, or a fine not to exceed $300, or both. The offender is ineligible for any office in any asylum in the State.

A copy of the law is required to be framed and posted in every ward of every insane asylum, both public and private.

A law was passed making it obligatory on the conductors of all railroad trains to stop at any regular or flag station in order that a physician may alight who wishes to reach a patient from such station. If the conductor shall refuse to stop a sufficient length of time to enable the physician to get off, he is guilty of a misdemeanor and may be fined for each offence from $100 to $1,000.

The law of 1887 regulating dentistry was amended, and now requires the Board of Examiners to meet at the call of three members.

It is required to grant certificates to all applicants who have obtained a diploma from a reputable dental college and who pass a satisfactory examination. A book of registry containing the names of all licensed dentists is to be kept.

For the examination and certificate a charge of $10 is made, which is to be devoted to defraying the expenses of holding meetings.

Another law requires all dentists and lawyers to pay a license tax of $10. Like several other of the States, legislation hostile to the cigarette was adopted, and it was made a misdemeanor for anyone to sell or give away any cigarettes or cigarette paper to a minor under eighteen. The penalty was imprisonment not exceeding thirty days, or a fine not exceeding $100.

The law of 1889 relating to County Boards of Health was amended, and the Secretary, who must also serve as Treasurer, was permitted to receive, in addition to the per diem allowance, compensation not to exceed $75 per month. A bond was to be taken for the proper performance of his duties.

Additional compensation, not exceeding $100 per month, can be paid the President of the Board in counties where there are seaport cities of five thousand or more inhabitants.

The rules and regulations of the State Board were to be observed by the County Boards, which were permitted to adopt other rules necessary for their localities. Violations of the law could be punished by imprisonment for six months or a fine of $1,000. The fees from disinfecting vessels, etc., and the proceeds of a one-mill tax were to be devoted to the expenses of maintaining quarantine regulations.

The legislation of Georgia during 1891 contained, as has been stated, a law securing the postal rights of patients in insane asylums, and its provisions are quite similar to those of the Florida statute in the main requirements. The Georgia law omits, however, the peculiar preamble attached to the other.

The penalty for a violation of the law is a fine of not less than $50 and not more than $500, to which can be added, at the discretion of the judge, imprisonment for a period of from ten to sixty days. The offender is also ineligible to office in any insane asylum.

A further section is added, declaring that any person who maliciously causes the imprisonment of any sane person, knowing him or her to be sane, in any public or private asylum, shall, upon conviction, be punished by a fine of from $1,000 to $5,000, and by imprisonment in the State Prison for a period not less than two years and not more than four years.

It is also required of the judges of the Superior Courts of counties containing lunatic asylums that they shall make the act a special charge to the grand juries.

Another law requires the board of trustees of the lunatic asylum to appoint a special examining board of three competent physicians which shall examine rigidly all applicants for the position of superintendent or assistant physician, as well as those persons now in office who have not been examined. Successful applicants are to hold office for two years, and the questions and an-

swers are to be preserved in the archives of the asylum.

The law of 1890, which placed a tax of $10 on all itinerant doctors, dentists, opticians, or other specialists, was amended so as not to apply to persons who had a fixed place of business and who had paid the general license tax of $10 laid upon all practitioners of law and medicine.

In the Superior Courts, in trials for seduction or divorce or other cases, where the evidence is vulgar or obscene and tends to debauch the morals of the young, the presiding judge shall have the right, of his own motion, to try the case after clearing the court-room of all or any portion of the audience.

A general law was passed making it unlawful to sell or offer for sale any spirituous, alcoholic, vinous, or malt liquors within three miles of any church or public or private school-house. This would seem to be virtual prohibition, but an exception was made in the case of incorporated cities and towns, and also in the case of regular practising physicians, who were allowed to dispense alcoholic stimulants for medical uses in their practice.

Another law made it unlawful for anyone to carry intoxicating liquor to church, but an exception was made in the case of physicians, who could carry what they deemed necessary in their regular practice.

Cotton-seed-meal was required to be analyzed by the State chemist before sale, and must be marked as second class unless it contained at least seven and one-half per cent. of ammonia.

An appropriation of $15,000 was made for a steam laundry and water-works at the Georgia Institution for the Deaf and Dumb.

In Idaho most of the legislation shows signs of the new conditions prevailing in a partially developed State. It is declared to be the duty of the Board of Education to ascertain the number of deaf, dumb, and blind children of school age and sound body in the State, and to provide as soon as possible for their education if their parents were not able to. An appropriation of $3,000 was made for this purpose. An appropriation of $35,000 was also made for purchasing grounds, erecting buildings, and making improvements at the Idaho Insane Asylum.

All practising physicians were declared to be exempt from military duty.

A law was passed providing that no punishment should be inflicted on a convict except solitary confinement on bread and water, or wearing a ball and chain attached to one leg.

Registered druggists could sell without a license spirituous and vinous liquors on the written prescription of a regular practising physician who certifies that in his opinion the health of the party to whom the liquor is sold would be promoted by its use.

Fruit-trees, even in that new country, would seem to be affected by the codlin moth and other injurious insects, for horticultural commissioners were authorized to be appointed with full powers for investigating and abating as public nuisances the orchards or salesrooms where the insects were found.

In Illinois the State Board of Health was directed to choose its secretary from its members, and the salary of the office was fixed at $3,000.

Ten thousand dollars were appropriated for a contingent fund, to be used with the consent and concurrence of the Governor, in case of the outbreak or threatened outbreak of any epidemic or malignant disease, such as Asiatic cholera, small-pox, yellow fever, or to defray the expenses of preventing the introduction of any such diseases or their spread.

Cities of one hundred thousand inhabitants or over were authorized to establish public hospitals, which should be non-sectarian, and were to be supported by the levy of a two-mill tax. The board of directors should consist of three members, one of whom might be a woman. The hospitals were to be for the benefit of all the inhabitants, but everyone except paupers must pay reasonable compensation for nursing, care, medical attendance, etc. It was provided that all physicians who are recognized as legal practitioners by the State Board of Health shall have equal privileges in treating patients.

The dislike for the English sparrow seems to have culminated in Illinois, for a statute was passed which gave a bounty of two cents for every sparrow killed during December, January, and February. The bodies or heads must be presented to the County Clerk in lots of ten or more, and he must then draw a warrant on the County Treasurer.

It is required of the Director of the State Laboratory of Natural History that he prepare a bulletin of information for use of the County Clerks, so as to enable them to distinguish the heads of English sparrows from those of other birds. If a person presents the heads of birds other than sparrows, claiming a bounty, he is to be fined $5 for each head.

A law was passed establishing the Illinois State Reformatory at Pontiac, and the new method of reforming criminals by the parole system was directed to be carried into operation. If the offender is between the ages of ten and twenty-five, has not been previously convicted, and the crime is not a capital one, the sentence of commitment shall be a general one, and the duration is not to be fixed. The time shall not, however, be longer than the maximum now established by law, and may be shortened by the managers of the Reformatory.

A physician shall examine each prisoner and enter in a register the name, nativity, race, weight, stature, and family history; also a statement of the condition of the heart, lungs, and other leading organs, the rate of pulse and respiration, the measure of the chest and abdomen, and any existing disease or deformity A register is also to be kept by the Superintendent of all facts about the age, nativity, parentage, education, occupation, early social influences and tendencies which may seem to indicate the constitutional or acquired deficiencies of the prisoner, and the best possible plan of treatment. He shall also keep minutes of the improvement or deterioration of character of all prisoners.

The Board of Managers have the power to release prisoners on parole, but they are under legal custody and can be taken back. No prisoner is to be released unless arrangements have been made for honorable and useful employment for at least six months at some suitable occupation.

The Superintendent must keep in communication with a paroled prisoner, and if he gives evidence after six months' employment that he will not be guilty of further violations of the law, a report shall be made to the Managers, who may make an entry of discharge, and send the record to the judge imposing the sentence. Such judge will thereupon enter a formal order of discharge.

If a prisoner violates his parole he shall be treated as an escaped prisoner, and upon arrest shall serve out the maximum time.

The cutting of the solid part of a horse's tail, a brutal act called "docking," is forbidden unless it is proven to have been a benefit to the horse. The punishment is imprisonment not to exceed one year, or a fine of from $25 to $200.

An appropriation was made of $163,000 for the erection and furnishing of new buildings to accommodate three hundred additional patients at the Eastern Hospital for the Insane at Kankakee, and of $71,000 for repairs and other new buildings.

An appropriation of $35,000 was made to purchase farm lands and make improvements at the Illinois Asylum for Feeble-minded Children at Lincoln.

The Illinois State Penitentiary at Joliet received $100,000 to keep the convicts employed and for the purchase of tools, machinery, raw materials, etc.

In Indiana a law was passed establishing a State Board of Health, consisting of five members, with a Secretary, who must be a physician and shall be styled the Health

Officer of the State. It is the duty of the Secretary to collect information regarding vital statistics, diseases, hygiene, etc., and to present the same in an annual report. Information shall also be disseminated among the people on these subjects in such manner as the Board may direct. The Board shall have general superintendence of the health and life of the citizens of the State. They shall study the vital statistics and endeavor to make intelligent and professional use of the collected records of death and sickness among the people. They shall make sanitary investigations and inquiries respecting the causes of disease, and especially of epidemics, the causes of mortality, the effect of employments, habits, circumstances, etc., on the health of the people.

An annual report, with suggestions about legislation, is to be made by the Board. The Boards of Commissioners of each county are made local Boards of Health, and it is the duty of such Boards to prevent the spread of contagious diseases, to abate nuisances, etc., and to carry out the regulations of the State Board. A refusal to carry out these regulations is made a misdemeanor and punishable by a fine of $100; for a second offence imprisonment for ninety days may be added. The salary of the Secretary of the State Board is not to exceed $1,200, and $5,000 is appropriated for all expenses.

A law was passed for the protection of birds, nests, and eggs, and it was made unlawful to kill other than game birds, under a penalty of thirty days' imprisonment and $50 fine. The Executive Board of the Indiana Academy of Sciences was authorized, however, to grant permits to properly accredited persons for the collection of birds' nests or eggs for strictly scientific purposes. Such persons must present testimonials from at least two well-known scientific men and also give a bond for $200.

A general charter was provided for cities of over one hundred thousand inhabitants, which granted ample powers for securing public comfort and health. A Department of Health and Charities was established, with three Commissioners, all practising physicians, and to be appointed by the Mayor. The department was to have charge of all health matters, hospitals, etc., and was to elect one of the Commissioners to be Registrar of Vital Statistics, who should attend to the proper registry of all births, marriages, and deaths. Special sanitary officers were to be appointed to inspect live-stock, meat, food products, etc., to examine plumbing and to attend to the proper fumigation of infected houses, etc.

The Medical Practice law of 1885 required all practitioners of medicine to procure licenses from the clerks of the Circuit Court of the counties where they practised. This law was amended in 1891 so that a license procured in one county enabled the holder to practise in any other county.

An important law was passed providing careful safeguards for the working of coal mines, so that the lives and health of the miners would be better protected, and another law required mercantile establishments, manufactories, etc., to provide seats for female employees when not actively engaged in their duties.

The Board of Trustees of the Eastern Indiana Hospital for the Insane was abolished and a new Board of three members provided for, to be elected by the General Assembly. The duties of the new Board were declared to be the same as required of the Board of Trustees for the Additional Hospital for the Insane. Appropriations were made of $45,000 for the construction, equipment, and furnishing of the Southern Indiana Hospital for the Insane; of $10,000 for the Indiana Institution for the Education of the Blind, to provide new buildings and general improvements; of $11,000 for a building for the Industrial Department of the Indiana School for the the Feeble-minded Youth, and of $17,500 for general improvements at the Indiana Institution for the Education of the Deaf and Dumb.

In Kansas the legislation did not contain any laws directly affecting physicians, but a statute was passed for the regulation of dentistry. It provided that any person desiring to practise dentistry, and not holding a diploma from any dental school or college or university department, shall be entitled to be examined by the Board of Examiners provided by the law of 1885.

The Board shall fairly and impartially inquire into the qualifications of said person with reference to his knowledge of practical dentistry, and if a majority of the Board shall certify that in their opinion he has a sufficient knowledge of practical dentistry to entitle him to engage or continue in practice, a certificate shall be issued. The applicant must pay $20 for the examination.

A curious bit of legislation is found in a law appropriating $3,500 for establishing, maintaining, and conducting an experiment station at the State University at Lawrence to propagate the contagion or infection that is supposed to be destructive to chinch bugs.

The Prohibitory Liquor law was amended so as to allow wholesale druggists and dealers in photographic supplies to sell to registered pharmacists or photographers any amount of alcohol over one quart on a written certificate that the buyer does not intend it for a beverage nor to give away.

Any person making a false certificate is guilty of a misdemeanor, and can be fined from $100 to $400, and be imprisoned from thirty to ninety days.

The manufacture of vinegar, except from apple cider, is forbidden, and also any adulteration by drugs or acids, under a penalty of a fine varying from $50 to $100.

A law regulating the management of the State Penitentiary provides that there shall be no corporal punishment of convicts, no painful or unusual kind of punishments, such as binding the limbs, or keeping the person in a painful posture. Punishment is to be restricted to the ball and chain, but not so as to torture the person or limbs, and to close and solitary confinement, with such deprivation of light and limitation of kind and quality of food as may in the exercise of a sound discretion produce distress without hazarding the health of the offender.

If a convict becomes insane the prison physician shall summon the two nearest resident physicians and investigate the case. If deemed insane, the convict may be confined in the insane ward, or the Board of Directors may remove him to the Insane Asylum. If he recovers before the expiration of his sentence, he may be sent back to the prison.

A law was passed prohibiting the editing, publication, or circulation of any newspaper, magazine, etc., devoted largely to the publication of scandals, lechery, intrigues, etc., and the person offending is guilty of a felony, and may be imprisoned in the penitentiary for a period of from two to five years.

The importance of the cattle industry is significantly shown by the penalty imposed for driving or turning into any highway cattle capable of communicating Texas, splenetic, or Spanish fever. The offence was made a misdemeanor, and punished by a fine of not less than $500 and not more than $2,000, or imprisonment in the county jail for a period of from thirty days to one year.

In addition, the person was liable civilly for all damages suffered.

An appropriation was made of $9,000 for the erection of an industrial building at the Institution for the Education of the Deaf and Dumb at Olathe.

(To be continued.)

Second-Hand Teeth.—A reporter of one of the daily papers has discovered a dealer in second-hand sets of false teeth. He buys them at pawnbrokers' sales for from ten to thirty cents, and sells them for about three dollars, so there is a fair margin of profit in the business. But it is not pleasant to contemplate the abject poverty that has driven the original possessors of these artificial teeth to pawn them for a few cents.

A FEW BRIEF REFLECTIONS UPON THE ANCIENT DOGMA OF MATERNAL IMAGINATION OR IMPRESSION AS A FACTOR OR A DISTURBING ELEMENT IN THE PRODUCTION OF NUMEROUS AND VARIOUS ABNORMALITIES OF THE EMBRYO OR FŒTUS IN UTERO.

By WILLIAM BODENHAMER, M.D., LL.D.,

NEW YORK.

From the very numerous and remarkable examples of the influence of maternal impression upon the embryo or fœtus in utero which are constantly being reported in the medical journals by physicians, the writer also feels moved to make a few brief remarks upon this recondite subject for what they may be worth. He could also report several remarkable instances illustrative of the subject which came under his own observation during a practice of many years, but deems it unnecessary, or a work of supererogation, inasmuch as the case, in his opinion, is quite sufficiently established without calling any more witnesses to the stand.

The ancient dogma of the influence of the maternal imagination or impression upon the embryo or fœtus in utero is a theory or sentiment which has grown gray with the growth of ages, is crystallized by time, and confirmed by innumerable and varied examples which are as indisputable as they are inexplicable. Indeed, the records are rich in instances exemplifying this very dogma or opinion. Many of the most distinguished ancients held it; for instance. Hippocrates, Galen, Celsus, and other ancients generally, paid much attention to the various fœtal vices of conformation, which they attributed to the influence of the mother's imagination. Indeed, some of the writers of all ages were of opinion or belief that the embryo and the fœtus were susceptible in some manner of psychical, mental, and physical impressions or influence. Some writers, however, have always been found who attribute these fœtal defects to other causes or sources than that of the influence of maternal impression. Aristotle calls them "errors of creation." Pliny mentions them in these words, "Ludibria sibi nobis miracula ingeniosa fecit natura." Some writers allude to them as blind and chance productions, and inexplicable natural wonders, bizarre and sportive formations; while others again attribute them to the influence of evil spirits or witches, as some of our good forefathers supposed. At the present day a large number regard these fœtal abnormalities, or deviations from the normal standard, as merely remarkable coincidences. Mr. John Wilson considers nævi, or mother's marks, which have been said to resemble strawberries, currants, etc., to be nothing more than a morbid alteration or hypertrophy of the vascular tissue of the dermis. What Mr. Wilson says is doubtless true, but the question here is not what their pathology is, but what is their cause or origin?

The writer takes it for granted that the dogma of the maternal imagination or impression as a factor in the production of various preternatural changes, defects, and some diseases of the embryo and the fœtus in utero, is established beyond all doubt, from the numerous and overwhelming facts which have accumulated and still continue daily to accumulate. Indeed this theory finds its prototype in the Bible, and thus comes down to us in an unbroken chain through these many centuries; and is even now held and maintained by a large majority of the scientists of the age, who admit that the mental condition of the mother can be phrenographed, as it were, in the physical development of her offspring. If this is true, and there is no evidence to the contrary, no valid reason can be given why the influence of maternal emotion should not be classed among the disturbing causes of fœtal development and disease. Upon this subject the writer made the following remarks in his treatise on the "Congenital Malformations of the Rectum and Anus," published in 1860, p. 41: "Is it at all possible for the maternal imagination to be so wrought upon as to cause a partial or a total arrest of development, or an excess of development, in any portion of the fœtus? Will anyone deny that a sudden fright of the mother might not be sufficient to destroy the life of the fœtus; or refuse to admit that prolonged and vivid impressions of the mother, of whatever character, might not give rise to disease in the fœtus, and such disease ultimate in death or in the malformation of some organ?"

But whether this theory be true or false, it stands today intact, never having as yet, so far as the knowledge of the writer extends, been successfully disproved or refuted by any fair, logical, and satisfactory argument or rational explication.

Such phenomena doubtless depend upon fixed laws, of which, however, we are as yet ignorant, and only know of their existence by witnessing their numerous and strange effects.

The writer would here remark, however, that the fœtus in utero is liable to many malformations, as well as many diseases, which are entirely independent and beyond the influence of maternal imagination or impression.

M. Mauriceau, two centuries ago, held and published opinions relative to the causes and sources of the various abnormalities and diseases of the fœtus in utero which differ but little from those of the present day. Fredericus also, in 1658, published a learned and interesting work in Latin pertaining to the same subject. These two able authors give much curious and valuable information, the result evidently of extensive observation and research.

The subject of maternal imagination or impression has recently been very ably and learnedly discussed by the following distinguished medical gentlemen of our own country: Dr. B. W. Palmer, of Detroit, Mich., editor of the *Medical Age;* Dr. W. R. Lowman, of Orangeburg, S. C.; and Drs. E. C. Spitzka and E. C. Seguin, of New York City.

There are numerous well-authenticated cases on record of the evil or deadly effects of violent passion, profound grief, sudden fright or shock, alarm or fear, acting upon the *enceinte* mother. Some cases are related in which pregnant women after violent fits of passion have been delivered of dead children. May not some of the worst of such cases receive an explanation in the extreme agitation of the maternal system and the temporary suspension of the uterine functions to which such powerful and often-repeated agitations give rise.

There are some authors who, believing in the utero-placental nervous connection and the immediate influence of the maternal impressions upon the fœtus, imagine that too great an amount of nervous power may be thrown into its feeble organism, and that it destroys life in the same manner as that produced by an electric shock. It is supposed by them that electricity itself is a cause of the death of the fœtus, either by passing along the utero-placental nerves or being conducted to it through the liquor amnii.

M. Mauriceau records a number of cases of fœtal abortions and death as having resulted from "une grande peur ou chagrin." The French surgeon, M. Baron Percy, gives a very graphic illustration of the dreadful effects of maternal emotion and impression upon the fœtus in utero in his vivid description of the siege of Landau, which occurred in 1793. The Baron says: "In addition to a violent cannonading which kept the women in a constant state of alarm, the arsenal blew up with such a terrific explosion as few could bear with unshaken nerves. Out of ninety-two infants born in that district, within a few months after the occurrence, sixteen died at the instant of birth; thirty-three lingered from eight to ten months; eight became idiotic and died before the age of five years, and two came into the world with numerous fractures of the limbs."

M. Pinel observed the large number of insane, idiotic, and malformed children born during and shortly after the

intense excitement of the French Revolution. Our own countryman, the late eminent and highly distinguished Dr. Rush, also observed the large number of malformed and idiotic children born during the American revolutionary period. Dr. Andrew Combe, in his treatise on insanity, has also recorded some curious facts illustrative of this same subject, and he also alludes to the well-known circumstance of what Pinel and Rush had observed in their respective countries during the revolutionary period in each.

Dr. Lowman, speaking of profound grief, mental or physical shocks acting upon the mother and producing defects, mentally and physically, in the child, refers to instances which have occurred within recent dates. He says Dr. Spitzka gives the statistics of Legrand du Saulle, in reference to the *ouvriers* of Paris, of the defective children born in 1871, as "enfants du siége." The French are known to be exceedingly impressionable and emotional. Of ninety-two children born in Paris during the siege, sixty-four had mental or physical anomalies, and the remaining twenty-eight were weaklings, twenty-one imbecile or idiotic, and eight showed moral obliquity or emotional insanity. The financial crises in Berlin, in 1875 and 1880, were followed by an increased number of idiots born.

Now, it may be asked, are the foregoing phenomena capable of being explained upon physiological and natural principles? The defective intellects especially seem to be almost moved beyond our calculations. But may they not rather be owing to the frantic passions and bewildered intellects of both the parents themselves, at the time of conception, than to any subsequent influence of the mother's imagination; and may not the damaging effects of such a continued state of mind and body, on the health of the mother, be amply sufficient to account for the absence of mental and bodily vigor in the offspring?

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7 WEST FORTY-FIFTH STREET, January 20, 1892.

Clinical Department.

A CASE OF EXTRA-UTERINE PREGNANCY.

BY FORBES R. McCREERY, M.D.,

NEW YORK.

So much has been said and written of late on the subject of extra-uterine pregnancy that I think the following case may be of interest:

Mrs. W——, aged twenty-eight, married, United States, o-para. Mrs. W—— has always suffered pain from dysmenorrhœa. This has grown less severe of late years. Periods have usually been delayed from three or four days to a week. They have lasted three or four days. She was married first in 1882. Her husband died six years later. Three years ago she married again.

About four years ago she had an "abscess" near the rectum and another in the right groin. The latter opened into the vagina. At that time the menses ceased and did not recur for thirteen months.

In May, 1890, the menses ceased again. Nursing nausea began in June. From July on she suffered greatly from pain in the right iliac region and in the back, bearing down, frequent chilly sensations, alternating with feverishness, vomiting, and loss of flesh and strength. In six months her weight fell off from one hundred and seventy-five to one hundred pounds. An abscess was diagnosticated, and on December 2, 1890, exploratory laparotomy was performed. Apparently the cause of the trouble was not found. After the operation her chills and fever left her, and she gained somewhat in flesh and strength, but still remained far from well. In April she began to pass fœtal bones per anum. This continued during May. From that time on no bones were passed, but she suffered greatly from rectal tenesmus, painful defecation, and frequent discharges of pus from the rectum.

I first saw the patient on August 17, 1891. At that time she was suffering much from the symptoms just detailed. She had had a slight chill the week before. She gave also the history and physical signs of incipient chronic tuberculosis. On vaginal examination a large, hard, tender mass was found in Douglas's cul-de-sac. On passing the finger into the rectum the same mass was felt, and about two and one-half inches from the anus, a small opening into the bowel was found. Through this projected a bone with rough, serrated edge.

On August 20th, with the assistance of Dr. Jeffry, ether was given, and the bones removed. Considerable difficulty was found in so doing. I attempted at first to use a rectal speculum, and seize the bones with forceps. This, however, proved impracticable, and I was forced in the end to pass my fingers into the abscess cavity, and scrape out the bones in that way. Instruments were of little use, and most of the work was done with the fingers. The cavity was irrigated with bichloride solution. For several days after the operation there was slight fever, with some local pain and tenderness. This subsided under appropriate treatment. On the 29th I found the same mass in the cul-de-sac, but it was much reduced in size, and only slightly tender. The rectal tenesmus and purulent discharge had entirely ceased. It seemed to me that there was nothing left beyond the remains of the sac in which the fœtus had lain, and the surrounding adhesions.

The bones removed were perfectly free from soft parts. The largest was one of the frontal bones. This was the one I had felt projecting into the rectum. There were two or three ribs, one ulna, and about six or eight of the smaller bones. They are at present in the museum of the New York Hospital.

Since August I have seen Mrs. W—— a number of times, but have had no opportunity to examine her. She has had no return of the rectal symptoms. She suffers a good deal at times from pain in the lower portion

of the abdomen. She has also at times a dry cough, and there have been uncertain signs of infiltration at both apesis. These, however, seemed to me to have advanced little, if at all, since I first saw her. Her general condition is much improved.

129 East Fortieth Street.

FRACTURE OF THE PENIS.

By GEORGE HERBERT WILLIAMS, M.D., M.R.C.S. Eng., L.R.C.P. Edin.,

NEW YORK.

On February 1st, about midnight, I was called to see A. B——, a Hebrew, about thirty years of age. I found him greatly agitated, and sitting up in bed holding his penis. As soon as he saw me he called out several times in great distress, "Oh, doctor, I have broken my penis!" On examination I found blood escaping from the urethra, the sheets and patient's hands soiled with blood, and the penis arched toward the left with a distinct sulcus midway between the symphysis pubes and the glans, the whole organ very much engorged, more especially the right corpus cavernosum, and the skin of a darkish blue color. The patient gave the history of an old stricture, which he had been treating with Ag. No. 3 bougies, under medical advice.

History of Accident.—About half an hour before, on getting warm in bed, the organ being in an extreme condition of engorgement, he had forcibly tried to turn it down under the left thigh.

Treatment.—A number of English gum elastic catheters was passed without much difficulty into the bladder, and a small quantity of normal urine drawn off. On withdrawing the instrument a small clot was entangled in its eye. Fearing sloughing, which must have inevitably taken place, fourteen small incisions were made, mostly on the right side, and toward the distal end of the organ. Considerable blood and serum were allowed to escape, the part was freely dusted with iodoform, and enveloped in a linseed poultice, the glans being left uncovered. After the incisions patient expressed himself much relieved, but the part was still very swollen, blackish, and bent over to the left; the privates were raised on a soft pillow. The poultices were renewed every two hours during the night. At my morning visit the parts looked better, and were not quite so much swollen.

Much the same treatment was continued for six or seven days, the poultices every three hours, and a soft rubber catheter left with the patient. All the incisions at the end of a week were healed, except one just behind the glans, on the right side, and the penis had almost recovered its normal size and color. On the eighth day the poultices were discontinued, and a dressing of iodoform 3 j. in lanoline ʒ j. used, being spread on lint and changed twice a day.

On the eve of the ninth day patient had difficulty in passing the catheter, and found the urine ran along its side and escaped from the unclosed incision on the right side; with considerable force, however, this was avoided in the future by using a full-sized rubber catheter, and emptying the bladder three times in the day. The patient left his bed on the fifteenth day, the iodoform ointment being still used. When I saw him last on February 19th, the wounds were all healed and the penis looked normal, the catheter being discontinued.

The case has seemed to me so unique in its details that I have ventured to record it, having never in a large hospital experience seen anything quite like it.

The fact of the patient being circumcised was, of course, in his favor as regards the final result.

It would seem that the hemorrhage from the urethra following the accident, and subsequent escape of urine from the wound mentioned, and the peculiar bending of the organ, pointed to the fact that the penis had practically undergone a green-stick fracture, with a rent of the urethra on the side of the convexity; in fact it was possible at the last examination to trace a tract of adhesive inflammation from below upward, and along this the urine must have made its way.

173 West Eighty-first Street, March 3, 1892.

PARALYSIS AND CONVULSIONS CURED BY TREPHINING.

By F. J. ADAMS, M.D.,

GREAT FALLS, MONT.

Some time since I was very much impressed by an article by Dr. J. W. White, of Philadelphia, on "The Supposed Curative Effects of Operations *per se*;" and thinking, perhaps, that many of your readers are as interested in the subject, I send you a report of an interesting case of paralysis and convulsions that were entirely cured by an operation, though no abnormal condition was discovered.

James W——, Irish, aged twenty-nine; cowboy by occupation. While engaged in a saloon row on September 21, 1891, was shot in the head. The ball, from a 44-calibre revolver, penetrated the scalp and fractured the skull one-half an inch anterior to and one inch above the right parietal eminence. The ball did not penetrate the skull, but gouged out a piece of bone about the size of a silver ten-cent piece, causing a hernia cerebri. The protruding portion of brain was removed and the edges of the scalp wound trimmed and drawn together with sutures, and an antiseptic dressing applied. There was complete hemiplegia of the left side and paralysis of the right leg, difficulty in deglutition, and also impaired memory and hesitancy in speech. His temperature the day following the accident was 102° F.; his pulse, 100. The pulse and temperature remained about the same for five weeks, at the expiration of that time there was no fever. The wound had united and was perfectly closed, but the paralysis remained the same. I would say there was loss of sensation on the left side also. On October 29, 1891, he commenced having convulsions on the left side, which were as frequent as every half-hour and lasted from two to five minutes. The convulsions would always begin in the muscles of the face and gradually extend to the muscles of the left extremity. During the convulsions there would be great dyspnœa. On November 4th I saw the patient again, in consultation, and advised trephining. Accordingly on November 12th the patient was etherized, the scalp shaved and prepared antiseptically. A horse-shoe incision was made in the scalp to include the periosteum. The flap was reflected, the trephine applied, and a button of bone about one inch in diameter removed and immediately placed in a hot bichloride solution, 1 to 4,000. Nothing abnormal was discovered except a very trifling depression of a small portion of the frontal bone, certainly not enough to cause the symptoms noted. The depressed portion of bone was raised, and the button of bone that had been removed by the trephine was broken in small bits and replaced in the wound. The man reacted nicely; the convulsions disappeared on the second day following the operation, and both the motor and sensory paralysis at the same time began to improve. At present he has good use of both legs, and is able to walk without the aid of a cane; the only complaint is the occasional giving away of the left knee. He has also excellent use of his left arm. He has no hesitancy in speech and his memory is entirely restored; in fact, the man has made a most remarkable recovery. The button of bone united firmly, and the only evidence of an operation is a linear cicatrix about one line in width and the shape of the original incision.

She Would be Beautiful.—A woman was arrested not long ago in London for drunkenness, who was found afterward to be suffering from the toxic effects of atropine, which she had instilled into the eyes to dilate the pupils and give the organs a brilliant appearance.

HERMAPHRODITISM, SPURIOUS.

By H. D. BISHOP, M.D.,

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THE following case of spurious hermophroditism is one of interest from the fact that the deformity is such a marked one of hypospadias.

The patient has the following interesting history. Up to his seventeenth year, five years ago, he was thought to be a girl. His parents were aware of some deformity, but had never consulted a physician in regard to it. At that time a physician was called to attend him for some slight ailment. During his attendance he discovered the true sex of his patient. From that date he assumed man's attire. His general appearance is masculine; beard light, breasts perfectly normal in size. The external genital organs are those of a male, but partially correspond in appearance to both male and female, as is shown in the accompanying illustration. Lying di-

rectly upon the pubis on the right side is a fully developed testis ensheathed in a fold of loose tissue which passes down forming a close resemblance to the labia majora. On the left, in a corresponding position, is an imperfectly developed testis ensheathed as on the right and a fold corresponding to the left labia majora.

The penis occupies a normal position. The glans and prepuce are developed and, in the state of erection, the penis is perhaps three inches in length. The meatus is normal and there is the beginning of the urethral canal. Immediately below the symphysis is a narrow strip of mucous membrane which extends downward a distance of two and one-half inches, terminating in an opening corresponding to the deep portion of the urethra. There is no evidence or any organ distinctively that of a female.

At the age of fourteen he had an illness which his mother ignorantly interpreted as the beginning of his menstrual function. For the past six years he has practiced masturbation. He accomplishes this by manipulating the above-mentioned strip of mucous membrane below the symphysis. The act is followed by an orgasm, with a discharge of prostatic fluid. No traces of spermatozoa are present on a microscopical examination.

The Onus Probandi of Medicine.—A writer in an esteemed contemporary refers to tuberculosis as one of a "class of diseases which have so long been the *onus probandi* of medicine." We should smile.

Progress of Medical Science.

Hairs in the Stomach.—Quoting from a German medical journal, the *Mercredi Médical*, February 10, 1892, cites a case recorded by Bollinger, in which an autopsy, performed to discover what kind of malignant growth had caused death, revealed the presence of a compact mass of hair, weighing 900 grammes, in the stomach and intestine. This mass formed an exact cast of this portion of the digestive tract. The girl, it was afterward discovered, had for over ten years been in the habit of pulling out her hair and swallowing it. There are six similar cases in literature, all in young girls, not diagnosticated during life. In one instance, the seventh on record, an error in diagnosis led to an operation that resulted in saving the patient. Bollinger looks upon the habit as a species of pica, such as is observed among the insane, the hysterical, the chlorotic, and pregnant women.

Hiccough Cured by Compression of the Phrenic Nerve.—In *Mercredi Médical*, February 10, 1892, there is an account of complete and permanent cure of persistent hiccough by a simple and convenient method. The patient, a child twelve years old, suffered from hiccough every half minute; the trouble resisted all treatment, made sleep next to impossible, and induced such impairment of nutrition that the child's life seemed in danger. Leloir, the last physician consulted, hit upon the lucky expedient of forcibly compressing, by means of the finger, the left phrenic nerve between the two sterno-clavicular attachments of the sterno mastoid muscle. The pressure being maintained uninterruptedly for three minutes, in spite of the somewhat painful nature of the proceeding, the hiccough ceased, never to return. Leloir states that he has tried this remedy many times since with equally favorable results.

Hypnotic Treatment.—Dr. Sperling offers the following conclusions regarding the employment of hypnotism: 1. The methodical employment of hypnotism as a therapeutic measure is plainly justifiable. 2. The physician alone should make use of this means of cure. 3. Physicians should not abandon this method to empirics nor even to inexperienced hands. 4. Public exhibitions of hypnotism should be forbidden, so as not to vulgarize the method and bring about undesirable consequences. 5. In certain particular cases the therapeutic result depends (*a*) on the precision of the indication, (*b*) on the method employed, (*c*) on the personal influence of the physician upon his patient. 6. The variations inherent to each separate individual prevents us from establishing any general rules for the employment of therapeutic hypnotism. 7. The author has found no inconveniences from the method.—*Journal de Médecine de Paris*, October 18, 1891.

A Cohnheimoma.

WHO can diagnose lipoma
From malignant carcinoma?
Or a simple osteoma
From deep-seated angeioma?
An innocent chondroma
May be thought a fierce sarcoma;
Strong and muscular myoma
May reinforce fibroma,
Till the fidgety neuroma
Nerves himself to ask myxoma
Why in thunder old lymphoma
Disowned lymphangeioma?
And if warty papilloma
Simulated adenoma,
Would the patient carry home a
Wound and die in coma?

F. C. BURRINGTON.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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A DEFENSE OF THE HABITUAL USE OF OPIUM.

ONE of the worst of the many instances of oppression of a weak nation by a strong one was the forcing of opium upon China, and very few are the voices that have been raised in extenuation of the crime. Among the most eloquent of these apologists is Surgeon-General Sir William Moore, who seems to think that China owes a debt of gratitude to England for not being permitted to restrict the use of opium. In an article in the *Provincial Medical Journal* of February 1, 1892, he supplements his former writings on this subject by an elaborate argument, in which he attempts to show that opium addiction is, to the Chinese at least, a blessing rather than a curse.

So far, he intimates, from the Chinese becoming deteriorated by their indulgence in opium their condition as a nation has been benefited by it. Formerly they were a very drunken people, but now they are temperate in the use of alcohol, and have in consequence become an essentially aggressive people, and "have proved themselves to be the strongest, most industrious and enduring, as well as the most thrifty and provident of all nations." The emaciation, sallow complexion, muscular tremor, and mental weakness, said to be characteristic of the opium consumer, are, he contends, the result only of the excessive use of the drug, the majority of those habitually taking opium being "hale, hearty, and powerful, and with intellects undulled." Another assertion which he characterizes as incorrect is that the opium habit once contracted cannot be given up, but he supports his view with little more than a simple denial, citing only an anonymous letter to the *Times*, in which the writer says that the habit is not in any case irremediable, and an instance mentioned by Sirr of a confirmed smoker who abandoned the use of the drug. An assertion that the confirmed inebriate can always give up the use of alcohol if he so desire may be supported by much stronger testimony than this. Very possibly a man who has indulged moderately and for a short time in opium-smoking may give it up if he desires, just as one who habitually drinks alcoholic liquors may abandon the habit. But if the general consensus of medical men and of missionaries to the East, whose authority is based upon long observation, has any weight, it must be admitted that the opium disease follows upon habitual indulgence much more certainly than does the alcohol disease. Indeed, it is the almost universal testimony of credible witnesses that the habitual use of opium enslaves its victims and that the habit is, Sir William Moore's anonymous authority to the contrary, in most cases irremediable.

The author devotes a few lines to a comparison between opium and alcohol, in which the advantage is by no means on the side of alcohol. "It has been asserted," he says, "that the use of opium is more deleterious than the use of alcohol. This may be considered under two aspects, moral and physical. As regards the moral effect it may be conceded that the immoderate use of both alcohol and opium are degrading; but the moderate use of opium is certainly not more degrading than the moderate use of spirits—*i.e.*, it is not degrading at all! Opium users are not 'run in' as drunk and disorderly; they do not engage in brawls; they do not 'jump on their wives;' and they never display the different stages of inebriety. There are thousands of men in Eastern towns, Bombay for instance, who in almost all conceivable capacities are good masters and good servants and yet use opium. The fact is, spirit disorders the mental faculties, opium brightens them; spirit robs a man of his self-possession, opium sustains it. There is no reason why opium-smoking necessarily degrades a person more than does the smoking of tobacco. As regards the physical effects of opium no special disease has been traced to it, excepting, perhaps, constipation at first, and after immoderate use weakness, depression, and a semi-hysterical condition, often terminating in diarrhœa. The influence of opium-smoking is entirely on the nervous system and is not permanent. Alcohol causes well-known permanent organic changes. It affects the liver, the heart, the kidneys, and it may cause paralysis and lunacy. It also often causes delirium tremens. None of these results occur from the use of opium."

This is manifestly an unfair comparison, for it is between the effects of opium taken in moderation and those of the immoderate use of alcohol. An occasional glass of wine or beer, or even of rum or whiskey, does not disorder the mental faculties or rob a man of his self possession, neither does it cause cirrhosis of the liver, paralysis and lunacy, or delirium tremens. On the other hand, opium-smoking in excess does not brighten the mental faculties or sustain a man's self-possession, but just the contrary.

In comparing the effects of opium-smoking and opium-eating, the author is more fair. It is a mistake, he holds, to say that opium-smoking is more deleterious than opium-eating, and cites a number of authorities to the effect that the former is much less injurious, even when indulged in to excess, than the latter. The opium used for smoking, called "chandul," is "boiled, filtered, and otherwise manipulated, by which a considerable portion of the narcotin is removed. The only matters remaining capable of producing physiological effects are morphia, codeia, and narceia. When chandul is used it is not smoked like tobacco. The bowl of the pipe is so held that the flame of a lamp catches the chandul, and the effect of the ensuing combustion is destruction of much of the remaining active principles of the opium. A portion of the remaining morphia is sublimed and deposited in the pipe before it reaches the mouth of the smoker. Sir George Birdwood concludes that nothing passes from the deflagrating chan-

dul pill into the lungs but the volatile resinous constituents of opium."

Nevertheless, opium-smoking is physically injurious and mentally and morally degrading. The assertion to the contrary may be made with comparative safety in England, where opium-smoking is little or not at all indulged in, but it will hardly be accepted in this country where the opportunity for studying the results of the vice is unfortunately so near at hand. There are not "a million of smokers" in the United States, as Sir William Moore intimates, but there are a great many, and for their moral and physical degradation England is in a measure indirectly responsible, since she has done her best to increase the prevalence of the vice among the Chinese, who are now propagating it in this country.

A NEW TREATMENT FOR ACUTE GONORRHŒA.

Dr. C. E. Cotes, in the *British Medical Journal*, describes a new treatment for gonorrhœa which he tells us cures the disease within twelve days. The technique of the method is as follows:

The patient is first made to micturate, and thus remove the discharge from the urethra, as far as possible. The endoscopic tube, warmed and oiled, is then passed into the urethra, the patient lying on a couch. As a rule the passage of the instrument gives rise to but slight pain, but occasionally, in sensitive patients, or where inflammation is very acute, a ten per cent. solution of cocaine previously injected up the urethra will be found useful. The urethra is then thoroughly mopped with dry cotton-wool fixed in a stilet and examined by the electric light. The exact limit of the inflammation can then be clearly seen. It is, as a rule, quite five inches from the meatus; it may be four inches even so early as the third day of the disease. The implicated surface is at once to be recognized by its swollen, bright-red appearance, as contrasted with the rosy color of the healthy urethra. Occasionally distended vessels can be seen coursing over the inflamed surface. It is important not to pass the endoscope needlessly far beyond the posterior limit of inflammation, which is usually sharply defined. The diseased membrane should be now carefully remopped with dry cotton-wool, so as to remove every vestige of secretion and have a perfectly clean surface. A mop of cotton-wool on a stylet, and charged with a solution of silver nitrate (ten grains to the ounce of water), should then be passed down the endoscopic tube and thrust through its distal aperture. The tube and the mop are then withdrawn simultaneously. By this means the walls of the urethra contract upon the mop and are thoroughly moistened by the solution. For the two inches of the urethra near the meatus a fresh mop is used, so as to completely saturate this portion of the passage, in which the disease commences, and where also the inflammation is most intense. The patient will always complain of slight burning pain for a few minutes; but this gradually passes off, and in ten minutes or so he feels quite comfortable. He is recommended to take a hot bath at night and to remain quiet, in bed if possible, the following day. The diet is regulated as usual. A saline purgative, with an alkaline or copaiba mixture, is given internally, and the patient is instructed to use a mild cleansing injection, such as Condy's fluid (one drachm to the pint).

Dr. Cotes has tried his plan successfully upon forty-two patients. He states that it is not indicated in cases in which the meatus is too small to admit the endoscope, or in cases in which the inflammation extends back beyond the range of vision or the reach of the applicator. The method, as will be seen, includes the use of copaiba and injections. It requires skill and care in its application, but seems simpler and apparently more effective than the antiseptic irrigations.

A NEW SKIN DISEASE.

New remedies have so far outstripped the discovery of new diseases that it is with a certain sense of relief that we record an attempt to diminish the disproportion. Dr. Savill has observed (*The British Medical Journal*, December 5, 1891, and January 9, 1892) a new form of epidemic skin eruption which has decimated the aged population of several London workhouse infirmaries. The characteristic feature of the eruption is the desquamation or exfoliation of large areas of epidermis. An illustration showing an almost complete cast of the hand indicates to what extent this shedding of the skin may go. The disease begins as a papular, papulo-erythematous, erythematous, or ringed eruption, and becomes confluent in from three to eight days. In some instances the rash strongly suggested rötheln, but there was absence of pyrexia, and these cases, like the others, soon took on either an eczematous appearance, or one more like the descriptions given by Wilson of pityriasis rubra, according as the dermatitis became moist or dry.

In some instances there were vesicles on some portion of the surface, and when the face was the chief part involved a swelling, often sufficient to close the eyes, and in other parts as well where there was an abundance of loose cellular tissue the tumefaction caused a strong superficial resemblance to erysipelas.

The disease appeared to be confined to certain institutions, had a decided predilection for the aged infirm, and ran a more or less definite course of seven or eight weeks. Twenty per cent. of the inmates were attacked, and a number died. The eruption showed a proneness to start on exposed parts, as the face and scalp, though equally often on the arms.

Post-mortem examination in the fatal cases revealed nothing to account for the affection, and bacteriological investigation, so far as it has gone, showed the presence of a diplococcus, but whether a new one or only a modified form of the staphylococcus has not been determined. Albumin was found in fifty per cent. of the cases. Since those who had opportunity to observe the cases could not make a positive diagnosis, we will not presume to do so; but it would seem probable from the data furnished that while the disease might be classed as an eczema of a parasitic and probably, of a contagious nature, from the extent and intensity of the inflammation, infiltration, and desquamation, it would be more probably put down as a dermatitis exfoliativa.

Pityriasis maculata et circinata is suggested by the onset and duration, but this seldom becomes so confluent, never produces such extensive desquamation, clears up in

the centre of the separate patches, and does not end fatally. However, the absence of data regarding the deaths prevent an opinion being advanced as to the possibility of its resulting from preceding or intercurrent disease. One naturally turns to the influenza eruptions as a possible explanation, but it was found that few of those affected had had the grip. Pityriasis rubra is never accompanied by papules or vesicles. To be sure we do not know dermatitis exfoliativa as an epidemic disease, but it often occurs as a scarlatinal form of eruption, and we are told that many of the 163 cases observed resembled scarlatina in a measure, and relapses were not infrequent. Vesiculation is also not unusual in this disease. It seems hardly possible that any drug, such as quinine, could have produced a dermatitis in so many persons at the same time, but a single instance of the affection described could readily pass for a quinine eruption.

Whatever may have been the etiology of this strange and till now unexplained outbreak it was found, that local applications of creolin gave the best results.

A LANGUAGE FOR SCIENTISTS.

No one can doubt the utility of international scientific congresses, or that they are to the benefit not only of those participating, but of scientists everywhere throughout the world. New ideas are brought out, not only in the set papers, but also, less frequently, in the discussions; men meet and form friendships with their fellow-workers in the different departments of knowledge, and an incentive to renewed labor and more diligent study is found in this personal intercourse with workers in other countries. But there is one great drawback which is patent to all who join in these meetings, and which, so far from diminishing with time, seems only to become more and more apparent with each succeeding congress. This, of course, is the want of a common language. Some men there are whose acquaintance with the three official tongues is so familiar that they can take part in all the proceedings with ease, indifferent as to what language may be used, but they are few. The majority, and these are not infrequently among the most learned in their respective specialties, can command but one tongue, and thus two-thirds at least of what is said is lost to them. They cannot discuss a question, because they have not heard it, and if they read a paper they are unintelligible to one-half at least of their auditors. Admitting that discussions are for the most part useless, yet they are not always so, and often a thought which has flashed into the mind of the speaker, and is then and there given out, is pregnant with ideas of great value. All this is lost when the hearer understands no more of what is going on about him than if he were at a convention of deaf-mutes.

A plan was adopted in Paris during the meetings of the many congresses at the time of the Exposition, which reduced these inconveniences somewhat, yet did not, of course, obviate them entirely. Those who intended to present communications had their papers ready some time before the opening of the congress, and they were then printed and distributed to all the members before the meeting, so that they could be read, or, if necessary, translated, and their contents noted. Then at the actual meeting, instead of consuming time by reading these long, set papers, unintelligible as they would be to many of the members, the authors presented short abstracts of them, giving merely the principal heads of their argument, and these abstracts having been previously translated were printed and handed to those present at the meeting. After this all, as far as they were able, joined in an intelligent discussion. We might suggest, in passing, that this would not be a bad plan to adopt at all society meetings. It would effect the saving of not a little unprofitable wind, if we may be forgiven the uncharitableness of the remark.

In almost all the discussions of this question of language, which are always provoked by every international scientific meeting, the only solution arrived at seems to be that Latin must be rehabilitated as the mother tongue of all the sciences. It is said that the Frenchmen will never speak German, the Germans will never speak French,-and neither Frenchmen nor Germans will, nor as a rule can, speak English, consequently they must all meet on the common ground of the Latin. Of course, Volapük, Esperanto, Spelin, and all the other made-up languages, which have been as persistently advocated by their inventors, are out of the question. But why not Greek? This is a more flexible and more beautiful language than Latin, equally clear and expressive, and at the same time much better adapted for use as a conversational tongue. The modern form of the language, such as is in use in Athens to day, is easily learned, readily adapts itself to the formation of new words to express modern inventions, words formed, nevertheless, on strictly classical models, and differs as little from the Greek of Xenophon or of Plato as the English of to-day does from that of Chaucer or of Spenser. We commend a consideration of the claims of Greek to those of our esteemed contemporaries who are agitating anew the subject of a universal language of science.

PARESIS OF ADOLESCENCE.

CHARCOT'S lecture upon the subject, reported by Dr. Paul Blocq, appears in *Le Mercredi Médical*, February 10, 1892. Diffuse meningo-encephalitis, or general paralysis of the insane, was supposed earlier to belong only to adult life, and to be a disease that never attacked women. Already there are seven well-authenticated cases of paresis of adolescence, exclusive of Charcot's patient, who is a lad sixteen years of age. Among all who suffer from diffuse meningo-encephalitis there is one woman to about every ten men. In women the disease, in its earlier manifestations, bears a close resemblance to paresis appearing at the period of development. There are psychic disturbances, but no marked delusions of grandeur except certain fantastic, perverted ideas that do not require asylum treatment. The condition is one of primary dementia, often preceded by depression.

However uncertain or vague the onset from the psychic point of view, there are physical signs sufficiently characteristic upon which to base a diagnosis. Of these the most important is embarrassment of speech. When the mouth is opened there is tremor of the jaw and lips, and fibrillary shaking and trombone movement of the tongue as soon as it is protruded. Speech is labored, scanning, and confused. In disseminated sclerosis there is also scan-

ning speech, yet the syllables are distinct and easily understood. In diffuse meningo-encephalitis, the syllables of words run together, and there is a redundancy of *l's* and *r's* that give the characteristic sputtering. This peculiarity is pathognomonic and can seldom be imitated. Occasionally subjects thoroughly bromodized among alcoholics, or those suffering from paralysis agitans, will present somewhat similar symptoms of disordered speech. A little care suffices to establish a differential diagnosis. Charcot considers this condition so emphatically a pathognomonic sign of paresis, that he affirms his willingness to base a diagnosis upon it alone, even in the absence of all psychic disturbances. Next in importance is a notable awkwardness of movement, voluntary or automatic, as in walking. The gait is also peculiar. The legs are far apart, the patient falls heavily on one foot and drags the other in walking, the hands are held separate from the body, and there is a dumfounded expression of face. Vibratory tremor is often present, six or eight oscillations to the second, that is somewhat analogous to the tremor of alcoholism or exophthalmic goitre. Then come ocular troubles, inequality of the pupils, and the Argyll Robertson symptom. Toward the closing period of the disease there is more and more helplessness. Paretics then cannot walk, owing to a kind of astasia-abasia, though the dynamometric force of the limbs is in part preserved. The closing scene is that of complete dementia, the darkness of perpetual intellectual night.

The two women and the lad of sixteen, presented the day of Charcot's lecture, manifested the chief foregoing peculiarities, together with alterations in handwriting. In none had there been even mild delusions of grandeur or any melancholia, and in all there was the characteristic difficulty of speech. The boy was perfectly well as a child—bright, happy, and an apt pupil. After leaving school at fourteen, he began an apprenticeship at cravat-making, and shortly after this period his usually distinct chirography underwent a deplorable change. There was loss of memory, depression, stupidity, and general apathy. Family history revealed transient attacks of mental unsoundness in a cousin and alcoholic excesses in the father shortly before the boy's birth. This emphasizes the fact that syphilis or alcoholism may induce paresis as an inheritance. In those who suffer from paresis, Charcot considers syphilis, alcoholism, and overwork exciting causes only, and not in any way essential factors. In the boy, who had already been ill two years, paresis or diffuse meningo-encephalitis developed solely from individual constitutional defect that brought about arrest of development, manifested physically by undersize and deficient force, and psychically by the syndrome of primary dementia.

EMPLOYMENT FOR THE INSANE.

The report of a committee appointed by the Medico-Psychological Association of Great Britain and Ireland, to formulate propositions as to the care and treatment of the insane (*Journal of Mental Science*, October, 1891), contains the following suggestion regarding patients in asylums: "An essential part of the mental treatment is to distract the mind from insane ideas, and to suggest new and healthful thoughts by means of suitable employment and recreation. *Employment should be prescribed and watched* by the physician, as carefully *as any medicine*, it should be applied like medicine to the needs of each individual case, and it should be varied according to the condition of the patient and his previous history. Amusement and recreation come next in value, they should be used on the same principle as employment, and they are most useful when the patients take an active part in them, and are not merely spectators. Intellectual recreation in books, magazines, and newspapers is very important to many patients. Everything which tends to assimilate asylum to ordinary home life, and which can lessen the inevitable difference between them, is of the first importance. The whole surroundings and conditions of life in asylums should be as home-like, and as little irksome as possible; and every patient should have the utmost amount of personal liberty consistent with safety and the proper treatment of his disease."

THE DECADENCE OF THE GENERAL PRACTITIONER.

Dr. William B. Graves thinks (in the *Virginia Medical Monthly*) that the general practitioner is going to pieces. His decadence and ultimate elimination will be due partly to the use of specialism, and partly to the spread of medical charities and medical pauperism.

Dr. Graves is, we think, unnecessarily depressed. The general practitioner of the future will have to adapt himself to the new conditions of a wider intelligence and more critical spirit. He will have to be a better doctor, more learned, more experienced, less dogmatic, more thorough, more careful, and—more expensive. The day when a man can be made a general practitioner in two years, or even three, is passing away, that is all, Dr. Graves. Be cheerful and work.

News of the Week.

A Rival to the Keeley Cure.—A well-known physician of this city, heretofore in good repute, has discovered a cure for alcoholism which is better than Keeley's, and he has started an institute for treatment.

Cremation.—A bill has been introduced into the State Legislature prohibiting any disposition of the human body except by burial. This strikes a blow at cremation, and, what is more serious, at mummifying processes in mausoleums especially built for the purpose.

The Loco Weed is the name given to at least seven different plants growing on the Western plains and popularly supposed to make animals which eat it insane. Recent investigations by the Agricultural Department appear to show that the loco weeds are all in fact harmless.

Are Mydriatics Needed for the Determination of Refractive Errors.—An interesting controversy is going on between the editors of the *Medical News* and the *Post-Graduate* regarding the need of mydriatics for the determination of refractive errors of the eye. The *News* thinks them necessary, but its opponent does not; and the English language is picturesquely strained in attack and defence of the subject. The *Post-Graduate* utters this last word: "We have again consulted the instructors

in ophthalmology in the Post-Graduate School, and they again assure us that the use of a mydriatic for the determination of errors of refraction is an ancient and generally useless practice. This assertion may be ludicrous, when its truth is unknown, just as an Irishman sometimes finds Italian a heathenish jabber. Inform yourself, dear neighbor, about the best method of determining an error of refraction." In the same issue of this journal we find an article by Dr. Frank Van Fleet, in which he states that by the use of the ophthalmometer and ophthalmoscope refractive errors can be in most cases better determined than by the use of atropia in the older way.

A Pure Food and Drug Bill.—A bill has passed the United States Senate, and promises to become a national statute, concerning the adulteration of food and drugs. It makes a misdemeanor, punishable by fine and imprisonment, the introduction into one State or Territory from another of any food or drug adulterated or improperly branded. A drug, under the provisions of this act, is any medicine, internal or external. A food is anything plain or mixed, simple or compound, which is used for food or drink by mortal man. Every person who ships food or drugs from one State to another, or exposes the same for sale, must furnish samples to the agents of the Food Section of the Chemical Division of the Department of Agriculture. It will be interesting to see how this law will work in the case of patent and proprietary medicines. What, we should like to know, would constitute adulteration in the case of the Keeley Cure, or the Pinkham Vegetable Compound, or a popular porous plaster?

A Novelty in the Way of Medical Associations is the recently organized Afro-American Medical Society of this city, of which Dr. W. H. McKenley is president. The Society is composed of colored physicians, and its object is to secure closer race union, and to establish a hospital. Complaint is made that colored patients do not receive the treatment they require when admitted to the general hospitals of the city, and that, on one pretext and another, admittance has been denied at times. One of the colored physicians says: "Even when we place a difficult case in any of the hospitals of the city, we are not permitted to participate in the diagnosis of such case except as spectators. Our own cases are removed beyond our control or supervision the moment we transfer them to any of the hospitals, which is proper enough if we were permitted, as other physicians are, to participate in the general consultations and diagnoses. We have no place in the hospital service of the city, and we do not receive the courtesies and advantages that are common to members of the profession."

Physicians headed the list of suicides last year, and they have headed it every year in the last ten. This promises to be still more conspicuous this year, as in the first twelve days of the present month no less than seven physicians have committed suicide in the United States. There seems to exist no satisfactory solution for this state of affairs.

Obstetrical Science and Architecture.—In the northwestern part of this city are two maternity hospitals; one, the Sloane, is a model of all that a maternity hospital should be, and is fully equipped with everything that obstetrical science could possibly require. The other, the New York Infant Asylum, is an aged, wretched, ill-ventilated, badly-plumbed wooden building, reeking with sewer-gas, and threatening at any time to fall into the street. It has not even a pair of obstetrical forceps which can be called its own. Yet, in the past few years there have been delivered in each hospital 1,000 consecutive cases of midwifery, with only, in each series, three deaths. The results have been obtained, of course, only by great watchfulness and careful antisepsis. But they show that architecture and elaborate appliances are not absolutely essential to successful work, and that the man is greater than his environment.

An International Congress of Gynæcology and Obstetrics.—The Belgian Society of Gynæcology and Obstetrics has taken the initiative in the organization of a series of International Congresses to be held every four years in Switzerland and Belgium alternately. The first Congress is announced to take place at Brussels between September 14 and 19, 1892.

The Michigan State Medical Society announces that its twenty-seventh annual meeting will be held at Flint, on Thursday and Friday, May 5 and 6, 1892. The value of effective professional organization is too apparent to need further comment.

Forty-third Annual Session of the Medical Association of Georgia will meet in Columbus, Ga., on April 20th, 21st, and 22d. The officers are: *President*, G. W. Mulligan, M.D., of Washington, Ga.; *Vice-Presidents*, James M. Hull, M.D., of Augusta, Mark H. O'Daniel, M.D., of Macon; *Treasurer*, E. C. Goodrich, M.D., of Augusta; *Secretary*, Dan H. Howell, M.D., of Atlanta, Ga.

A Mathematical Prodigy.—*Poeta nascitur non fit.* The feats of Jacques Inaudi at the Académie des Sciences last Monday week seem to prove that the above axiom is applicable to arithmeticians as to poets. Inaudi is a native of Piedmont, twenty-four years old, and of short stature. The size of the head is rather below the normal standard, the forehead is very lofty and straight, and the facial angle well developed. That his calculating powers are of a very high order, and his memory quite extraordinary, is proved by the following experiments performed before the assembled academicians. Facing the audience and consequently turning his back to the blackboard, M. Darboux writes on this latter the following figures: 4,123,547,238,445,523,831 and 1,248,126,158,234,128,910, and, after having called them out, asks Inaudi to subtract the one from the other. Inaudi repeats the numbers quite correctly, closes his eyes firmly, and immediately answers correctly. M. Darboux then puts the following question: "What number is it whose square and cube added together equal 3600?" In less than two seconds Inaudi replies "15." M. Poincarré then gives the following problem: "Give the square of 4,800, subtract one and divide by six." At the same time, M. Bertrand asks: "On what day of the week did March 11, 1882, fall?" Inaudi replied immediately, "The 11th of March, 1882, was a Monday, and a person born on that day would have lived to-day, had he survived, so many hours, minutes, and seconds." (All these figures were found correct.) "The result of the calculation proposed

by M. Poincarré is 1960." These astonishing feats of rapid calculation greatly surprised the scientific men present, and the Academy forthwith appointed a committee, composed of MM. Darboux, Poincarré, Charcot, Chauveau, and Tisserand, whose duty it will be to report on the mnemotechnic methods employed by this wonder of the nineteenth century. It is said that Inaudi can hardly read or write.—*Lancet.*

Tuberculous Milk.—A bill has been introduced into the State Senate authorizing the Board of Health to take steps to prevent the sale of the milk of cows afflicted with tuberculosis.

Female Doctors and the Virginia Legislature.—Some weeks ago, a bill passed the House of Delegates of Virginia, requiring that one of the staff of physicians of each of the insane asylums of the State shall be a female; but when the bill came to the Senate it was defeated by a large majority.

The Pan-American Medical Congress.—The Medical Society of the County of Kings has endorsed the Pan-American Medical Congress, and appointed the following committee to co-operate with its officers: Drs. J. H. Raymond, *Chairman*, Alexander J. C. Skene, and Alexander Hutchins.

Reviews and Notices of Books.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Assisted by Walter Chrystie, M.D., Late Physician to St. Clement's Hospital, and Instructor in Physical Diagnosis in the University of Pennsylvania. Vol. I. "General Therapeutic Considerations," "Prescription Writing." "Remedial Measures other than Drugs," "Preventive Medicine," "Diathetic Diseases and the Diseases of Nutrition." Illustrated. Pp. 1052. Philadelphia: Lea Brothers & Co. 1891.

In the English language there are systems of medicine, of surgery, of obstetrics and gynecology, and of almost every branch of the healing art except therapeutics. In the study of a disease the one element that is most important—its treatment—is most often given the least attention. Elaborate treatises are written on pathology and diagnosis, and the treatment dismissed with a few words, and these often with so little detail that they are unpractical to the mass of practitioners. Furthermore, the progress in therapeutics, with the introduction of an immense number of new remedies, call for a complete work on the subject. Such a task Professor H. A. Hare has taken on himself. He has the assistance of the best medical writers of the age. The volume in hand opens with a chapter on "General Therapeutic Considerations," by Horatio C. Wood, M.D., LL.D. He discusses the principles that underlie the modern method of therapeutics, exposing the follies of empiricism and homœopathy, and showing the true scientific method that knows no dogmatic law. Then comes the important subject of dosage, a chapter that all could read with profit. He closes with an excellent and concise set of general rules for the combination of drugs in writing prescriptions. This subject is more elaborately discussed by Joseph P. Remington, Ph.M., who is the authority on the subject. He gives sufficient pharmacy for a physician to get an insight into the subject, a subject of which the majority of physicians are amentably weak. Electro-therapeutics is given nearly one hundred pages, the excellent treatise being written by Professor A. D. Rockwell, A.M., M.D. His remarks on dosage of electricity and on its application in gynecological troubles are sound doctrine too often unheeded.

John K. Mitchell, M.D., describes Professor Weir Mitchell's rest cure for neurasthenia and hysteria with such simplicity and detail that any reader could intelligently carry it out. In the prescribed cases it is beyond question of great value. Swedish movements and massage is explained, with profuse and excellent illustrations, by Benjamin Lee, A.M., M.D., Ph.D.; and Edward Mussey Hartwell, Ph.D., M.D, writes on "General Exercise."

On "Climate" Dr. S. Edwin Solly contributes one of the most valuable papers in the book. It is short, concise, and relates almost entirely to America in its application, and shows how and where to treat disease by means of climate. It is of value, too, in being explicit in saying just where and when to send any given case.

Dr. Simon Baruch's article on "Hydrotherapy and Mineral Springs" is likewise of exceptional value. The Germans have learned the value of hydrotherapy, to their immense advantage, and Americans should not be slow in following in their footsteps.

In that part of the work devoted to preventive medicine Dr. Henry B. Barker writes on "General Sanitation;" George M. Sternberg, M.D., on "Disinfection;" J. William White, M.D., on "Antisepsis and Asepsis;" I. Burney Yeo, M.D., F.R.C.P., on "Nutrition and Foods, including the Treatment of Obesity and Leanness." Under Diathetic Diseases and Diseases of Nutrition are these papers: "Tuberculosis," by Solomon Solis Cohen, A.M., M.D.; "Scrofulosis and Rachitis," by Walter Chrystie, M.D.; "Acute and Chronic Articular Rheumatism, Rheumatoid Arthritis, and Gout," by James Stewart, M.D.; "Scurvy," by John B. Hamilton, M.D., LL.D.; "Diabetes Mellitus," by Frederick A. Packard, M.D.

The work is distinctly therapeutic, and the subjects of diagnosis, pathology, etiology, etc., are only discussed as necessary to intelligently understand the *rationale* of treatment.

Lehrbuch der Ohrenheilkunde. Von Professor Dr. Victor Urbantschitsch, in Wien. Dritte vermehrte Auflage. Wien and Leipzig: Urban & Schwarzenberg. 1890.

A Practical Treatise on the Diseases of the Ear, including a Sketch of Aural Anatomy and Physiology. By D. B. St. John Roosa, M.D., LL.D. Seventh Revised Edition. New York: William Wood & Co. 1891.

Deafness and Discharge from the Ear; The Modern Treatment for the Radical Cure of Deafness, Otorrhœa, Noises in the Head, Vertigo, and Distress in the Ear. By Samuel Sexton, M.D., assisted by Alexander Duane, M.D. New York: J. H. Vail & Co. 1891.

The name of Professor Urbantschitsch needs no introduction here, as it is already well known to all those familiar with the more modern progress of otology. The present third edition of his well-known treatise on the diseases of the ear reflects the author's thorough knowledge and conversance with every subject pertaining to otological literature and work. It is, in fact, only another witness of the careful and painstaking work of our German *confrères* in the compilation of material relating to every subject to which they turn their well-trained minds. The present volume should rank high in its position among the works on otology, and as a book of reference has an especial value. In its perusal we note with much pleasure the absence of long drawn-out histories of cases, with which so many authors pad out their works. The different subjects are treated of in a short, practical, yet thorough manner, the references to the literature of each being remarkably exact and complete. The author

gives us, in Chapter VII., a clear and concise treatise on the labyrinth and acoustic nerve, the portions relating to the anatomy and physiology of these organs being especially worthy of mention. The cuts illustrating this part of the work are also of much interest and will afford valuable aid in the study and comprehension of this but vaguely understood region. Deaf-mutes and deaf-mutism are treated of at length, with especial reference to the educational measures for these unfortunates. The last portion of the work, where injuries to the ear, of various kinds, are considered from a medico-legal stand-point, will be found not only instructive reading, but will also demonstrate the importance of a thorough knowledge of such matters as a protection to the physician.

In Dr. Roosa's work, the seventh edition of which finds mention above, we note quite a number of changes and additions, especially those in relation to diseases of the nose and throat to the ear, and certain operative procedures on the drum-head, ossicles, and mastoid process. This work on the ear is so well known and has been so extensively read, that it would seem almost unnecessary to mention it in detail, especially in so limited a review. The book is one every aurist should possess; indeed, every practitioner of medicine would do well to read it carefully, since it presents an immense amount of valuable and practical knowledge of the diseases of the ear. The latest edition of Dr. Roosa's book is furnished with a new and more elaborate index, and the numerous illustrations leave nothing to be desired.

Dr. Sexton's little volume, just issued, will doubtless be hailed with pleasure by all interested in progressive otology, for, although it considers but one subject, that one represents the most important step in advance recently undertaken in the surgical treatment of ear diseases. The author's work in the direction of improving the hearing in cases of chronic catarrhal otitis media, and the discharge in the numerous class of intractable cases of chronic purulency of the middle ear, has excited much attention now for some years past, and the present monograph is simply a compilation of his experience in this field of aural surgery. Sexton's methods of performing the operative removal of the drum-head and ossicles, or their remains, are well known and need not be discussed in detail here. The work before us is interesting and valuable, especially as a review of the indications for this procedure and a synopsis of the results obtained through its performance. As for the latter, we are told that they are, if the operation be conducted with care, highly satisfactory, and also in cases of chronic purulent otitis media with caries of the ossicles, adhesions, etc., in the tympanic cavity. In the cases of so-called dry, catarrhal inflammation of the middle ear, with thickening of the drum-head and rigidity of the ossicular chain, the operation would also be indicated, since other treatment has shown itself without avail in such cases. Annoying tinnitus, vertigo, etc., due to certain morbid conditions of the middle ear and its sound-transmitting mechanism, are also indications for this operation. The instructive cases given show the improvement in both the subjective and objective conditions. The operation is without danger, but requires considerable skill, steadiness, and knowledge of the anatomy of this region on the part of the operator.

It might be of interest in this connection to note the views of Urbantschitsch and Roosa, in their above-mentioned works, in respect to the value of this operation. In chronic purulency of the tympanum, especially when confined more or less to the attic, Urbantschitsch recommends warmly the thorough removal of all obstructing and diseased tissues, ossicles, etc., and states that such procedures, in his hands, have been followed by excellent results. In cases of fixation of the ossicles in chronic middle-ear catarrh, he considers the removal of the ossicles also indicated and useful. In twelve cases treated in this manner the results were most satisfactory. Roosa, on the other hand, cannot be said to favor its performance in cases of chronic catarrhal otitis media, although he admits that it may be a sound surgical procedure in chronic suppurations, or as a means of removing necrosed bones and morbid tissue.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Consisting of Original Treatises and Reproductions, in English, of Books and Monographs Selected from the Latest Literature of Foreign Countries, with all Illustrations, etc. Vol. XII., No. 3. New York: William Wood & Co.

THE number of this well-known series for December, 1891, is taken up entirely with a translation of Dr. Otto Roth's "Modern Materia Medica," revised by Dr. Gregor Schmitt. The first part consists of a list of the various remedial agents, grouped according to their physiological and therapeutic actions, and this is followed by a consideration of the drugs and other remedies as regards their physiological action, therapeutic use, and dosage. Parts III. and IV. contain lists, with dosage, of remedies used hypodermically and by inhalation. In Part V. the various diseases are taken up in regular order, and the appropriate treatment—hygienic, dietetic, and medicinal—for each is succinctly stated. A therapeutic index completes the treatise. A specially valuable feature of the work is the large number of formulæ which it contains, wherein the most suitable mode of administration of each remedy is indicated. The book is thoroughly up to the times, and treats of the latest additions to the materia medica as well as all the old and standard remedies. This number contains also a general index to Volume XII.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. November Number. Contents: "The Practice of Hypnotic Suggestion, being an Elementary Hand-book for the Use of the Medical Profession" by GEORGE C. KINGSBURY, M.A., M.D.; "A Practical Manual of the Bacteriological Analysis of Water," by DR. MIGUEL. Pp. 267. Illustrated. Price, $1. New York: William Wood & Co.

THE prominent position which hypnotism has taken in medicine, and the undoubted good of which its use is capable, makes it a fit subject for careful study. The article in the November monograph is most complete, and gives all the details which make it possible for the general practitioner to practise it. The second monograph, on the "Bacteriological Analysis of Water," is by Dr. Miguel, chief of the micrographic service of the municipal observatory of Montoouris. He is an authority on the subject; his article is clear and concise, and the technique easily carried out. Both articles are profusely illustrated.

AGE OF DOMESTIC ANIMALS. Being a Complete Treatise on the Dentition of the Horse, Ox, Sheep, Hog, and Dog, and on the Various other Means of Determining the Age of these Animals. By RUSH SHIPPER HINDERKOPER, M.D., Veterinarian (Alfort, France); Professor of Sanitary Medicine and Veterinary Jurisprudence, American Veterinary College, New York; Lieutenant-Colonel and Surgeon-in-Chief National Guard of Pennsylvania; Fellow of the College of Physicians, Philadelphia, etc. Illustrated with 200 Engravings. Pp. 217. Philadelphia and London: F. A. Davis.

THE title of the book is an index of its contents. There is a mass of information that makes it not only valuable to horse and stock dealers, but also to physicians. An entertaining chapter is devoted to the teeth of man. The work is profusely illustrated.

Cancer Caustic.—Heat sulphate of zinc till water of crystallization is driven off and the sulphate falls into a powder. Add pure sulphuric acid to any desired thickness, that of mortar being preferable. It can be used in all cases unamenable to the knife, and leaves a granulating surface that heals with surprising rapidity.—STEPHEN SMITH.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 22, 1892.

GEORGE HENRY FOX, M.D., PRESIDENT, IN THE CHAIR.

Case of Complete Non-menstruation.—DR. H. W. MITCHELL read the history of the case, the patient being an Irish girl, twenty-four years of age, of healthy parentage. Had always been healthy herself, except shortly after her arrival in this country, in 1888, when the remarks of her working companions about the dire results of missing the periods led her to worry and thus brought about an anæmic state. Her good health returned when Dr. Mitchell assured her that there was no basis for worry, and she had remained well since. She had never menstruated, had no pains, no "show," no vicarious menstruation. The genital organs were normal so far as could be determined by digital examination.

DR. MESSENGER knew a married woman, well formed, weighing nearly two hundred pounds, in good health, who had never menstruated. She enjoyed the sexual act, she said, and had never noticed that it was periodically stronger. The labia appeared somewhat smaller than in women of her size.

DR. COLLINS had seen two women who had never menstruated. One had been under his observation for three years, was married, aged about twenty-eight, of good health, genitals well developed. He supposed that in non-menstruating women there was some abnormality in the tube. There were many cases on record.

Treatment of Epidemic Influenza.—The discussion on this subject, begun at the last meeting, was continued. Three papers were read, one by Dr. Burrall, one by Dr. Dessau, and one by Dr. Satterthwaite. In the absence of the author the Secretary read Dr. Burrall's. He said that as he had seen influenza it had appeared under two principal types, the catarrhal and the neurotic. In the catarrhal variety the general indications were, first, complete rest; second, the best nursing; third, very careful medical attendance. These measures were to preserve the patient's force. Watchful attendance on the part of the physician was important, for the disease was an uncertain one, liable to sudden fluctuations and complications which might demand timely aid. One's therapeutics would be likely to depend upon the view he took of the pathological process. Since he had become acquainted with the views of Dr. Leaming regarding plastic exudation in the pleural cavity he had found an explanation for many varieties which formerly he regarded as pulmonary. He now found fewer cases of pneumonia or subacute œdema. In accordance with these views, antiplastic remedies were called for in the catarrhal form. In the milder form with bronchial catarrh he had the patient remain in bed, gave an alterative of calomel, pulverized rhubarb, and extract of hyoscyamus in capsules; applied oil of turpentine and olive oil, one part to two, on the posterior thorax; also made a mixture for internal use of muriate of ammonium, chlorate of potash, extract of belladonna, sirup of sanguinaria, sirup of licorice root, and oil of wintergreen. In severer forms he gave tincture of nux vomica, infusion of digitalis, perhaps nitro-glycerine and quinine. He also made judicious use of alcoholic stimulants. Where there was severe plastic exudation he gave at the outset thirty grains of calomel, which was not necessarily a cathartic under these circumstances, but an antiplastic.

In the neurotic form he enjoined rest in bed, gave calomel and rhubarb at the commencement of the disease, and administered phenacetin and salol. After two to four pills of the latter had been taken, relief generally followed. Perhaps phenacetin would do as well alon without the salol. The author suggested that possibly a different microbe would be found for these two forms, the catarrhal and the neurotic.

DR. S. H. DESSAU said that while he agreed with the statement made at the last meeting by Dr. Delafield, that there was no specific for this disease, yet he did believe there was a rational treatment which could be based upon its causation and natural history. He did not accept the idea that the duration of the disease could not be shortened. Like in other epidemic diseases, or those of germ origin, he thought our therapeutic measures would help eliminate the poison, shorten the duration, and prevent complications. The various types of epidemic influenza were, he thought, due to varying doses of the poison or vulnerability of the subject.

The author attributed the primary catarrhal effects to the growth of bacteria upon the mucous tissues, and the following depressing influence upon the nervous system to the ptomaïne or toxine circulating in the blood. The idea of an eliminative treatment involved the aiding of the system in getting rid as rapidly as possible of the toxine, and at the same time relieving the intense congestion of the mucous membranes, fever being reduced as a matter of course. In accomplishing this object there was no plan better than that employed by nature, as shown in the natural termination of the disease, namely, by perspiration. The patient should be ordered to bed, and any of the ordinary means of inducing diaphoresis might be employed, but the author preferred an infusion of eupatorium or boneset. Steep half an ounce of the dried herb in a coffee-bowl of boiling water, strain, give a wineglassful every half hour. Being bitter, it was not readily taken by children. In them he preferred tincture of aconite, drop or half-drop doses hourly; or liquor ammonia acetatis and spirits of nitrous ether alone or combined. Put hot bags at the feet, lay on plenty of bedclothes. Diaphoresis relieved not alone fever, throat symptoms, and cough, but also nervous depression. He also called upon the poison-destroying function of the liver by giving calomel in small doses, say one-tenth of a grain tablet triturate, every hour, for eight hours, in the adult, subsequently every three hours until the bowels moved freely.

The author was of the opinion that the entire list of coal-tar products employed for the reduction of fever were therapeutically injurious in the treatment of germ diseases that were self-limited in character. While reducing temperature and causing diaphoresis, they also retarded metamorphosis of waste tissue, which in all probabilty became an additional poison to that already being produced by the germs of the disease, hence the nervous depression frequently following their use.

As a cough sirup he gave a combination of Begbie's mixture of citrate of potash and Ambergier's sirup of lactucarium. For occipital headache, muscular tenderness, and certain other nervous symptoms, he gave nitrate of silver, adding five drops of a one per cent. solution to two fluidounces of water, of this giving one drachm every two hours. Among heart tonics in the aged, etc., he preferred coca wine, or caffein to digitalis. During convalescence he gave, as a nerve tonic, compound tincture of chamomile. The patient should not go out until danger was quite over.

The Grip as a Cerebro-spinal Affection.—DR. THOMAS E. SATTERTHWAITE devoted his paper to a consideration of the nature of grip. He referred to the papers read at the last meeting of the Society, also to one by Andral concerning the epidemic of 1837, as proof of the complexity of the symptoms. He asked, how, then, were we to group all of these different morbid phenomena under one heading when the lesions, or, at any rate, the symptoms, indicated a rhinitis, a laryngitis, or a bronchitis; a pneumonia, pleurisy, or pericarditis; a gastritis, enteritis, or cystitis; a meningitis, cerebral or spinal; or a neuritis, peripheral or central?

The task, he said, was not too great. Althaus had asserted that these phenomena could be explained by an

inflammation of the medulla oblongata, and Dr. Satterthwaite thought it was not at all unlikely that he was right. At any rate, what little evidence had come in the line of pathological anatomy appeared to be corroborative of this view, and indicated that vaso-motor paresis or paralysis occurred. Here was a large field for pathological research. A study of epidemic cerebro-spinal meningitis seemed to show a close alliance between it and severe neurotic forms of influenza. Incidentally it might be mentioned that the two diseases prevailed simultaneously in Europe in 1837, and continued to prevail together until 1850.

The author had himself seen the various neurotic symptoms of influenza which he thought pointed strongly to a central origin. In a mild case nervous symptoms were slight. There was a little dizziness, often without fever, a faintness, dyspnœa, mental depression, great lassitude. These cases were like the so-called abortive forms of cerebro-spinal meningitis. In another class of influenza cases there was suicidal tendency or grave mania. Sometimes, after the neurotic phenomena had passed, there was so-called relapse, which might manifest itself in parts most vulnerable for the time being, as the nose, tonsils, etc.

The author thought that another evidence of the disease being an affection of the nervous system was to be found in its changed type with each return from year to year.

Prophylaxis against Epidemic Influenza.—Dr. W. L. Stowell briefly outlined the history of epidemics of influenza in its bearings on prophylaxis. There had been about thirty epidemics of the disease the past three hundred years. From the histories of these epidemics, particularly the last ten, we ought to be able to learn a great deal about its contagious nature, and to combat its spread from place to place. It had been attributed at different times to the influence of the heavenly bodies, changes in temperature, lack of moisture in the air, volcanic eruptions, the influence of spores, etc. Since 1847 it had been attributed to a specific germ, or, at all events, to a material poison. But the specific germ had not, so far as Dr. Stowell was informed, yet been discovered or proven. Whatever poison was the cause of the disease, it evidently travelled from city to city, from country to country. Recent epidemics had usually been traced to Central Asia. They spread faster than the earlier ones, which was apparently due to the increased facilities for travel. There were instances going to show that the wind alone might carry the poison, as during an epidemic in England a vessel came to port with no cases whatever on board, yet within twenty-four hours, and before any communication had been had with land, one hundred and sixty cases developed.

The period of incubation seemed to be, according to Dr. Stowell's observation, about thirty-six hours. Believing that the disease was contagious, he thought the schools should be closed while the epidemic was at its height. See that the kidneys performed their function, let persons take a small amount of calomel, avoid taking cold, exposure during perspiration, and lowering the vitality.

Treatment of the After-effects.—Dr. J. Leonard Corning's experience had been limited chiefly to the treatment of the after-effects, especially nervous depression. He had tried a novel method in two cases of melancholia following grip, putting the patients into compressed air, one twice a day, the other once a day, for a week or ten day. He also gave absinthe.

Dr. Messenger had often found a congested condition of the liver, spleen, and perhaps also of the kidneys, and had observed that such patients were much benefited by benzoate of soda and salicylate of soda. He also resorted to diaphoretics and cardiac and nerve stimulants.

Dr. W. A. Fanning had seen attacks cut short by gelsemium, say two or three drops of the concentrated tincture every two hours. It did not preclude other treatment also.

Dr. Joseph A. Monell had found sulphite of sodium of great value in grip—he used it in the proportion of two drachms in four ounces of water, the dose being a teaspoonful every two hours. He also employed chlorate of potash in the usual doses, and ordered the patient in bed.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 15, 1892.

S. B. W. McLeod, M.D., President, in the Chair.

Annual Address of the President.—Dr. McLeod said that inasmuch as his predecessor in office had treated in his annual address of the medicine of the past, and recently another distinguished member of the profession had pictured the medicine of the future, he would attempt to briefly portray some of the conditions of the practice of medicine at the present time. In practising medicine to-day we had to bear in mind that the medical knowledge of the laity had greatly increased the last few years. Except, however, in the application of preventive medicine or measures, little advance could be expected of the public than in the direction of nursing, the application of domestic remedies in fevers, and general shrewdness in meeting surgical exigencies. Exact knowledge was always exclusive. Physicians could not stop to reason with men who were unacquainted with the underlying facts on which the reasoning was based. But the people had ceased to look up to the medical profession with the old time awe and deference; they had learned to know better the duty of the profession to the public than the duty of the public to the profession.

A peculiarity of our people which influenced the practice of medicine was impatience, and intolerance of pain. To these facts might be ascribed the common resort to analgesics and cosmetic medication. Popular interest had also been awakened in certain diseases, such as diabetes and tuberculosis, which now taxed the doctor's skill in high degree. An important medical feature of the day was mental strain and nervous disturbances of all sorts. Excesses of every kind gave rise to premature decay. Mental aberration was very common. In fact, all nervous diseases were on the increase. The multiplication of asylums for the insane was witness for this painful truth. Dangerous cranks and murderers were also outcomes of our times. Shrewdness was a leading characteristic. The spirit of competition was ripe. Designing men were applying the advance in medical science to the promotion of selfish schemes, to the multiplication of drugs, adulteration, false representation. There was a multitude of imaginary sick persons who were breaking down their constitution by taking too much physic. Such people, prompted by the wiles of the charlatan, threw themselves into the arms of death by the very means by which they hoped to escape.

Another characteristic of our time was the presence of the money making spirit which insinuated itself everywhere. No young man should deceive himself and study medicine with a mere view to making money. Science and money did not go together. The President thought we should entertain no idea of trying to protect our business against new-comers. Nor should such words as boycott or trade's union be heard among us. Medicine was not a money-making business, although the one engaged in practising the art was entitled to get from it a living. The extremes of medical charity constituted one of the degrading influences of the day. According to the latest printed statements which he had seen, one-half the people of New York City received medical treatment gratuitously.

In suggesting measures for the correction of some of these evils, the President said physicians should quietly influence the people to employ only the regular profes-

sion; they should discourage the use of drugs for every ill; induce the people not to use drugs except by prescription, or as otherwise approved; parents, guardians, and teachers should exercise their influence in keeping the young from falling into the hands of schemers and advertisers. The profession should announce ex-cathedra the true principles of medical science in opposition to error.

He would deprecate all attempts to limit the number of young men entering the medical profession. There was always room for honest endeavor in the interests of the human race. When the young aspirant for a degree had been taught the various branches of medicine, his education was still incomplete until he had studied ethics. He should live up to the Code of the American Medical Association, which was also that of the County Association.

Clinical Examination of Urine, with Description of a New Case of Apparatus.—Dr. Austin Flint showed the case, demonstrated the examination of urine for sugar and albumin, and made some remarks upon the examination of the urine by each physician. It had seemed to him, for some years, desirable that there should be a portable apparatus or case, for the examination of urine at the bedside, in the possession of every physician. As long ago as four or five years he had given a description to Mr. Stollman, of the firm of Tiemann & Co., of a proposed case of apparatus but which, owing to strikes and other disturbing influences, had not been completed until recently. In having the apparatus made he had borne in mind that nothing was more important than to simplify it as far as possible for the clinical examination of urine. Of course, it was impossible to make a microscopical examination at the bedside. But to test for sugar and albumin, and to arrive approximately at the quantity of these ingredients in a given volume of urine, he had found to be quite practical.

The necessary instruments were all contained in a hard rubber box which could be put into the overcoat pocket. It contained a small alcohol lamp, about half a dozen small test-tubes, two tests for albumin, two for sugar, reaction-papers, pipette, graded volumetric tube, urinometer, etc. The test liquids were furnished by Dr. Squibb. For clinical purposes he regarded Sir William Roberts's test for albumin as best, consisting in the use of pure nitric acid, one part, saturated solution of sulphate of magnesium, five parts. The control test was by heat.

For the sugar test he employed the published formula of Dr. Squibb, the agents used being Rochelle salt, caustic soda, sulphate of copper, and water. There might remain some doubt where the quantity of sugar was very small, and in that event one could resort to the carbon-dioxide or fermentation test, using a small piece of Fleischmann's yeast. A little time had to elapse before the change would take place.

Dr. Flint impressed the value of quantitative tests for sugar and albumin, and also for urea, carried out in such a way as to be reasonably accurate and at the same time easily applied. For determining the quantity of sugar in a given amount of urine, he knew of no simpler way than that of Roberts. That is, take the specific gravity of the urine to be tested, note the temperature, then put into it a suitable amount of yeast, allow fermentation to go on for twenty-four hours. Often twelve hours was long enough. At the end of that time again test the specific gravity at the same temperature, the difference between the specific gravity on the two occasions would closely approximate the number of grains of sugar per fluid ounce in the urine. In a test specimen he had found the specific gravity taken twelve hours before to be 1.035; taken after fermentation it was 1.012. Twenty-three, therefore, represented the number of grains of sugar which the urine had contained per ounce. In other words, about 4.6 per cent.

Dr. Flint had long thought it desirable that there should be a method universally accepted for clinically estimating the volume of albumin to a given quantity of urine. He knew of no better way than to use a graduated tube with one hundred as the highest mark, which should represent the quantity of urine. Then boil, add a little acetic acid, after the urine cooled shake it so as to break up the albumin, then let it stand, say twelve hours; when the height of the albumin deposited at the bottom of the tube would show its volumetric relation to the urine.

For testing the amount of urea, he employed Dr. Doremus's apparatus, which was very simple and at the same time accurate. Caustic soda and bromine were used.

The speaker mentioned how difficult it was to collect all the urine of a patient during twenty-four hours, yet how necessary. But where this could not be done oftener than once or twice, perhaps, he recommended the frequent examination of the urine passed at different times of the day. As a rule, that passed in the morning was the best sample, but in the case of diabetes this often contained no sugar, while that passed after meals showed a considerable amount.

Drs. Herman M. Biggs and C. A. Doremus gave further emphasis to the author's views regarding the need of a case containing all necessary apparatus for making an examination of urine at the bedside, of the need of frequent examinations, and their greater value as compared with one or two which might be made with greater exactitude, etc.

Dr. Henry exhibited two specimens of blue urine obtained from patients to whom he had administered methyline blue for cystitis. Besides rendering the urine blue, or greenish-blue, the medicine had proven more efficient than any other in these two instances, in relieving the symptoms for which it was administered.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 11, 1891.

H. M. Biggs, M.D., President, in the Chair.

Large-celled Indurative Hyperplasia of the Lymphatic Glands.—Dr. George P. Biggs presented specimens of the above. The specimens had been removed from a boy, fourteen years of age, who had been admitted to the New York Hospital on July 10th, with a history of development of these nodules after an attack of scarlet fever ten years before his admission. A small nodule had first appeared at the angle of the jaw on the right side, which had grown slowly and interruptedly up to one year ago, since which time the growth had been more rapid. The patient's general health was good and the growths were not painful. Examination at that time showed a lobulated tumor, measuring 3 ctm. antero-posteriorly and 2½ ctm. vertically. It was not adherent to the subjacent tissues and was not tender or painful. Four days later the growth was easily removed by operation, and it was found to consist of eight ovoid bodies, varying in diameter from 1 to 4½ ctm., held together by vascular fibrous tissue. These lobules were smooth exteriorly, firm to the touch, of a gray color, and homogeneous in structure. Under the microscope they were seen to be composed chiefly of large round and spindle cells, arranged in the form of nodules, and scattered through this tissue was a reticulum of lymphatic tissue which stained more deeply than the surrounding structures. Near the centres of some of the lobules were single giant cells resembling in every respect the tubercular giant cell. No tubercle bacilli were found.

As is evident from the description, the structure closely resembles that of tuberculous lymphatic glands; but in view of the long duration of the process, and the absence of degenerative changes, and of tubercle bacilli, the specimens could not be considered as of tubercular origin, but as instances of large-celled indurative hyperplasia of the lymphatic glands. According to Ziegler, this process

consists in the transformation of normal gland-tissue into a large-celled tissue having none of the characteristics of the original structure. This large celled tissue consists of polygonal and spindle cells closely packed together, with very little inter-cellular substance. The resemblance to tuberculous change is sometimes made still more striking by the occurrence of giant cells. These hyperplastic glands are quite dense and often reach a considerable size without undergoing soft caseation, but hyaline degeneration is common.

THE PRESIDENT remarked that the condition just described was of great interest on account of the great liability to consider the process a tubercular one, and this mistake was most likely to occur when the cervical glands in a young person were the subject of this form of hyperplasia.

Two Cases of Impacted Gall-stone.—THE PRESIDENT presented also specimens of the above. In the first case, a patient in the almhouse, about sixty years old, came under his care about three months ago. At that time there was very marked jaundice and considerable vomiting, and she complained of indefinitely localized pain and tenderness in the abdomen. It was suspected that her symptoms might be due to impacted gall-stone, but a careful examination failed to show any enlargement of the gall-bladder or of the liver. The vomiting was soon relieved, and after three or four weeks a large cystic tumor developed in the left side of the abdomen, and its growth was accompanied by a corresponding diminution in the jaundice. The cyst was tapped twice, and a total quantity of about four quarts of a dark brownish-yellow and rather thick fluid were removed. When there was a temporary cessation in the growth of the cystic tumor the jaundice was decidedly increased. The patient's death was due chiefly to exhaustion, possibly aided by a localized peritonitis, and by the interference with the general health resulting from an abstraction of the bile from the system for so long a period. At the autopsy there was found a large cyst, the walls of which were formed by the diaphragm, the upper surface of the left lobe of the liver, the inner surface of the spleen, the outer surface of the stomach, and coils of small intestine, all matted together by exudation. The cyst contained the same kind of fluid which had been removed by tapping. On separating the adhesions on the upper surface of the left lobe of the liver a number of small openings were observed, and on cutting into the liver, it was found to be bile-stained. On the under surface of the left lobe of the liver was a very recent ulceration surrounded by adhesions. The gall-ducts were much dilated, and were surrounded by deep pigmentation and apparent necrosis. Just at the termination of the common duct in the duodenum was an impacted gall-stone, which probably completely occluded this channel during life, although at the autopsy a probe could be easily passed into the duodenum. The common duct was more than one centimetre in diameter, and just at its junction with the cystic duct was an old and rather deep ulcer which had apparently been produced by the pressure of the stone during its descent. The walls of the gall-bladder were very much thickened, and the entire inner surface was covered with a fibrinous exudation. The hepatic duct was greatly dilated, and its terminal branches communicated with the small openings found on the upper surface of the left lobe of the liver.

From this examination it seems probable that the stone having completely occluded the common duct the hepatic ducts became enormously dilated, and infection having occurred in some way, it resulted in an ulceration of the left lobe of the liver and the establishment of a communication between the ducts and the peritoneal cavity. The adhesions which developed around this point of infection resulted in the formation of the cyst, into which the bile was discharged. The cyst was probably at least four or five weeks old, and was surrounded by exudation, which had become partly organized. The fluid showed that the cyst must have been associated with the gall-bladder or with the gall-ducts. It is certainly very rare for the bile to be discharged by ulceration in the terminal branches of the hepatic duct.

The second specimen was from a woman who had been in apparent health up to the time of her admission to the hospital. She was then slightly jaundiced, but complained only of vague abdominal pains, and of feeling weak. She died suddenly on the following day. The autopsy showed a beginning of general peritonitis, the exudation being most marked in the pelvic cavity. The gall-bladder was enormously enlarged, and so great was the distention of the cystic and common ducts, that they could be easily mapped out before opening the abdomen. On making pressure on the gall-bladder, the papilla projected into the duodenum in a conical form, from one-half to three-fourths of an inch, and at its opening was a gall stone. This could be easily dislodged, and then it was found that the duct easily admitted the index finger. Had death not occurred so early in the case there would have been probably an ulceration of the papilla, and the stone would have been discharged into the intestine, leaving the duct again pervious. As in this particular case the cystic duct was not more than one-fourth the diameter of the common duct, it was fair to assume that the gall stone could not possibly have passed from the gall-bladder into the common duct, but must have been either formed in the common duct, or have passed into it when the stone was still quite small. The beginning of the hepatic duct was enlarged sufficiently to easily admit the end of the little finger.

The frequency with which gall-stones are found in the old people in the almshouse has been commented on, but no satisfactory explanation has yet been offered.

DR. H. P. LOOMIS remarked that as the stone did not adapt itself well to the end of the papilla, but admitted the passage of a probe along side of it, this might account for the slight degree of jaundice.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 28, 1892.

EGBERT H. GRANDIN, M.D., CHAIRMAN.

Election.—DR. ROBERT A. MURRAY was elected chairman, and Dr. J. Clifton Edgar secretary for the ensuing year. Dr. Murray then took the chair. He asked of the members the warm co-operation which they had extened Dr. Grandin, and spoke of the benefit to the individual and to science derived from a close study and report of cases.

Vote of Thanks.—The Section gave a vote of thanks to Dr. Grandin for the able, impartial, and faithful manner in which he had discharged the duties of chairman the past two years.

Specimen from Extra-uterine Pregnancy.—DR. FLORIAN KRUG presented the specimen from one of four cases of extra-uterine pregnancy, which he had operated upon within about a week, the first of the year. He had just completed the operation for extra-uterine pregnancy in one case when the house-surgeon brought a patient in to have the uterus cleansed for supposed incomplete miscarriage. He then learned that the last period had been overdue ten days, that she then had irregular hemorrhages and pains. On examination Dr. Krug felt a tumor to the left of and posterior to the uterus; the uterus, though somewhat enlarged, yet empty. He made the diagnosis of extra-uterine pregnancy, although the other surgeons present disagreed with him, believing there was more likely a fibroid tumor. He operated four days later in the presence of these gentlemen, when his own diagnosis was confirmed. Their mistake had been due to the very thick walls of the tumor which enclosed the embryo of a

tubal pregnancy, and which, owing to their thickness and solidity, felt like a fibroid.

DR. EDEBOHLS thought there were three things which, when found after laparotomy, indicated tubal pregnancy although the fœtus could not be found, namely, considerable effusion of blood into the peritoneal cavity, rupture of a tube, the walls of which, lastly, were considerably thickened.

The Source of Hemorrhage.—DR. COE said that a cursory examination of the specimen presented would seem to show that where rupture took place in extra-uterine pregnancy the hemorrhage came principally from the sinuses instead of from the blood-vessels.

DR. A. P. DUDLEY thought that where the fœtus could not be found in ruptured tubal pregnancy, a more careful search toward the diaphragm would probably reveal it at a distance, where it had been carried by the vermicular action of the intestines.

DR. MURRAY remarked upon the previous history of abortion, and DR. KRUG closed with a strong plea for laparotomy as opposed to electricity, morphine injections, etc.

Baby with Congenital Dislocation at the Knee.—DR. T. J. MCGILLICUDDY presented a baby about twenty-four hours old, which was born during breech presentation, with the right leg against the abdomen, the knee straight, the thigh flexed; the left leg also against the abdomen, thigh flexed, the leg twisted and dislocated at the knee. The child was born without any interference. As the knee was somewhat reddened, it seemed probable, as Dr. Jewett suggested in the discussion, that the dislocation had taken place by pressure on the pubis or by some other force during labor. He was still able to subluxate the joint, but it was gradually growing firmer.

The Diagnosis of Pregnancy Between the Second and Eighth Weeks by Bimanual Examination.—DR. ROBERT L. DICKINSON read the paper. The number of cases reported were 33; the number of examinations made on the 33 were 45. He ventured to draw some conclusions on so small a number because they were selected cases. Cases had been excluded in which at the time of the examination drawings representing the outlines and consistency of the uterus as felt on bimanual palpation had not been immediately made, and also those which could not be subsequently followed to prove pregnancy by continued growth of the fœtus, or by well-ascertained absorption. His method of exclusion was illustrated by a typical case. A woman coming to his office would be examined, and immediately he made a record of the condition of the uterus by drawing its outline, indicating hardness or softness by difference in shading. Then perhaps a week after menstruation she would have coitus. Going beyond her next period two or three days, she would return, and examination would again reveal the state of the uterus, of which a second drawing would be made. Drawings would continue to be made at subsequent visits, say until the eighth week.

His results showed that bulging or bellying of the body of the uterus was the most constant and valuable sign, being present in nintey-six per cent. of the cases. It was most frequent on the anterior surface in forty per cent. of the examinations, but might be present alone on the posterior surface, laterally, or be present all around. Its absence in four per cent. of the cases could be explained. The next most valuable sign was change in consistency, causing elasticity or resiliency of the body, present in eighty per cent. This appeared on the average by the thirtieth day, the bulging by the twenty-eighth, though sometimes as early as the sixteenth day. The next sign was compressibility of the lower uterine segment—Hegar's sign—present in sixty-six per cent. of the examinations from the fourth to the eighth week, sometimes sooner. Still another sign was a puckering or furrowing transversely on the walls of the uterus. In one case he had been deceived in the condition of the uterus, suspecting pregnancy by its alteration in shape during examination, apparently from sexual excitement. There was also a chance of being deceived by uterine contractions, which might take place even in the young and unimpregnated, and also in the senile uterus. He very briefly referred to a part of the literature of the subject.

DR. COE thought it would require a great deal of practice and previous familiarity with the individual case in order to say positively that the slight changes mentioned, as occurring after the second week, were due to pregnancy. Cases in which it was most desirable to make an early diagnosis were seldom those with which one was already acquainted.

DR. H. L. COLLYER expressed great interest in the paper, owing to the fact that he had had opportunity to test the early signs of pregnancy as revealed by palpation, to which attention was first called in this country by Dr. Grandin. Dr. Grandin had supposed he was observing Hegar's sign, but afterward learned that this was something different. Having been instructed in those signs by Dr. Grandin, he had since examined three or four hundred cases, and had reached the conclusion that the most serviceable sign was elasticity at the fundus, which gave the feel as if a rubber ball had been forced out at that point. It was quite noticeable by the fifth week. Hegar's sign was absent in six to eight per cent. of the cases. The pregnant uterus was elongated about a quarter of an inch at the fifth or sixth week, nearly half an inch at the eighth. The elasticity gradually extended over the whole uterus as pregnancy advanced.

DR. CHARLES JEWETT thought a diagnosis of pregnancy could be made with a good deal of certainty in the second month after two or three examinations had been allowed. He thought that to the bulging, or enlargement mentioned by the author, one should join the sign of softening, for enlargement might come from a pathological cause. In the second month at least the softening became well marked. He thought a variation in the consistency of the uterus might be induced by prolonged examination with resulting contraction. The softening was of an elastic nature, not doughy.

DR. GRANDIN said the paper corrobrated conclusions which he had reached in 1884. He had examined seventy five cases once, the results of which he published under the supposition that he had found Hegar's sign, but since had recognized it as something new. The conclusion which he had reached was, that under favorable conditions one could make a correct diagnosis in ninety per cent. of cases as early as the sixth week. He depended upon a group of signs—the globular shape of the fundus, bulging of the lower uterine segment, elasticity of the body. It was absolutely essential to grasp the uterus between the internal and external fingers bimanually. The subinvoluted or hyperplastic uterus could hardly be mistaken for the pregnant uterus presenting these signs.

Dr. Vineberg remarked upon the contraction of the uterus under massage; Dr. Agramonte upon the changes in the mucous membrane of the cervix and direction of the uterus in pregnancy; Dr. Edgar upon the value of a combination of the different signs mentioned; Dr. Cole upon the purple appearance of the cervix; Dr. Cushier on uterine contractions resembling the bulging shape produced by pregnancy; Dr. Murray on the same fact, stating that a further proof of pregnancy was necessary in the condition of softening named by Dr. Collyer and others, and warning one against basing conclusions on the view that all normal uteri were of the same size.

DR. DICKINSON, in closing, said he also would dwell on the value of a combination of signs as being more significant than a single one. A distinctly globular and elastic body meant pregnancy. He said Dr. Murray had properly suggested examining in such a way as to avoid causing contraction of the uterus. He would abandon the term Hegar's sign of early pregnancy, and speak of bimanual signs of early pregnancy.

The Preventive Treatment of Mastitis.—DR. VIRGINIA M. DAVIS read a paper with this title. It was based

on an experience with seven hundred and fifteen cases, most of them seen at the New York Foundling Asylum. Of this number of mothers only ten came to have pus formation in the breast. The record was better than that of maternities generally, although the mothers were seen two weeks and longer, whereas in others they were sent out as a rule before the second week. This was an important fact, for the danger of mastitis was greatest from the fifth to the twentieth day, while the gland was adjusting itself to its function. The next period of greatest danger was when the baby began to cut its teeth, and the last when it was being weaned.

There were two important points of prophylaxis, namely, to avoid if possible a break of the epithelium at the nipple, and to prevent stasis in the gland. As an application to the gland after nursing, the following was recommended: lanolin, three parts; sweet-oil, one part; compound tincture of benzoin, fifteen drops to the ounce. Other remedies might be necessary in extensive reddening. Where there was engorgement the only treatment required in some cases was light pressure by means of a roller bandage, with rubbing out of the breasts. In others the inflow of the milk was hindered by means of a tighter bandage, and Epsom salt was given to the point of mild purgation. All danger from engorgement was usually over by the fourth day. In forty cases the milk dried up without any attempt at nursing, and without difficulty. The milk very rarely flowed spontaneously from any breast which had once been allowed to become engorged. It had to be emptied by compression or expression. Where the gland became very hard, containing knotty masses, it gave relief to rub out the milk.

Where inflammation actually threatened the following indications were to be met: 1. Lessen the blood supply. 2. Encourage absorption in other directions. 3. Secure immobility and rest. 4. Relieve reflex pain and tension from accumulation of milk, and, if possible, sweep out the products. The author had relied chiefly on pressure, cold or heat, derivation, expression with suspension of lactation. By applying these means intelligently early in the case, incision of the breast would be rarely called for. Cold was applied by means of the ice-bag. In two or more cases she had expressed pus by rubbing with the fingers from without toward the nipple, and had thus avoided the necessity for incisions.

Dr. Grandin and the other speakers congratulated the author on the few cases which, under her management, had come to the formation of an abscess. Dr. Grandin preferred firm and equitable pressure to rubbing the breast as a means of preventing engorgement. His experience with drugs locally applied spoke little in their favor. Where pus had formed he would prefer to incise.

Dr. Collyer said the adoption of the bandage at the Maternity Hospital had driven mastitis out nearly altogether. Drs. Jewett and Murray thought a microbe was necessary for the production of pus, which meant there must also have been a lesion of the epithelium. Dr. Murray applied the bandage in all cases, but only to hold up the breasts. Dr. Buckmaster thought general surgeons failed in treating mammary abscess because usually they did not recognize the necessity for pressure in this class of cases. Drs. Edgar and Agramonte would not underestimate the value of belladonna, etc., and Dr. Agramonte also mentioned a case of grip and phthisis contraindicating the bandage. Dr. Cushier made some remarks, and the author closed the discussion.

Influenzal Insanity.—Dr. Savage says that the grip very often acts as the exciting cause of attacks of insanity in those in whom the disease is already latent. This may account for the recent unusual prevalence in this city of cranks with financial aspirations and longings.

Diagnosis of Belly-ache.—The pain in the male means appendicitis, and in the female pyo-salpinx. Treatment, open the bowels with—the knife.

New Instruments.

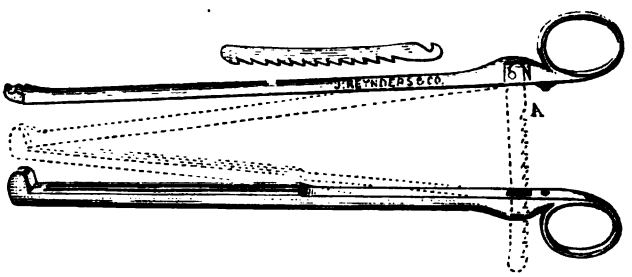
BROAD-LIGAMENT CLAMPS FOR USE IN VAGINAL HYSTERECTOMY AND DRAINAGE-TROCAR.

By BACHE EMMET, M.D.,

NEW YORK.

In a number of vaginal hysterectomies I have performed I have made use of the large Richelot clamp, modified by Doléris. In every case I have found that this clamp had one very serious defect, which must accompany every instrument of a similar principle devised for the constriction of the vessels of the broad ligaments.

In placing the blades of this instrument in position one is very desirous of having the exact top of the broad ligament, the Fallopian tube, engaged between the extremities of the blades, and, for that purpose, the finger is passed up behind the ligament to guide the blades and to see that it, and nothing else, is so included. This step can very satisfactorily be accomplished by the Doléris clamp, and, were this all, no better instrument could be called



for, since its constricting qualities are of the best. But we are now desirous of locking the blades, and in that manœuvre we are sure to again part the points, and before tightening our hold we are compelled to make a fresh exploration at the top of the broad ligament to ascertain and make sure that no loop of intestine has slipped within the branches, and also that the tube has not slipped out. To obviate this difficulty, and thereby to shorten the time necessary for such an operation, I have devised the present instrument, the special feature of which is that it acts like a nut-cracker, the reverse of all other ligament clamps, closing from its distal toward its proximal end. It measures nine and one-sixteenth inches in length.

This instrument is made in three pieces, two blades and a ratchet. Its proposed application is by first introducing the male blade, carrying it up behind the ligament upon the finger of the left hand, which has preceded it and is hooked over the top of the ligament; the female blade is now passed over the anterior face of the ligament and is immediately engaged upon the male.

Everything in that neighborhood is now safe, nothing else can be caught within the jaws; they can be immediately closed and bound fast.

Should great force be required, the ratchet may be slipped in place to facilitate the gradual compression. Once the handles have been tied, it is as readily slipped out and put aside. Its hold in the handle is by means of a slight spring, which, on being depressed, quickly releases it.

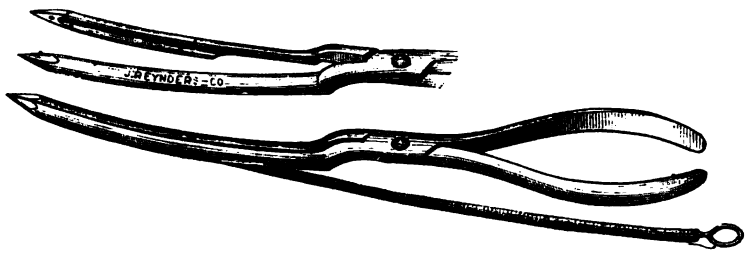
Repeated trials with this instrument show that it is as valuable in practice as it is promising in theory, and the removal of the blades during the progress of the case is even more easy of accomplishment than is their adjustment.

Note.—At the time of sending the above to press my attention is called to a device similar in principle, originating with Dr. Greig Smith.

I will here admit that this gentleman is entitled to priority in recognizing the necessity of such a contrivance, but on inspecting his instrument, which has just been shown to me by Professor T. Gaillard Thomas, I am still willing to allow my clamp to go before the world, con-

vinced that it will be found the more satisfactory of the two.

The second instrument, which I call a drainage trocar, ten inches in length, will also, I think, find a valuable



field and fill a positive want. The idea came to my mind while treating cases of pelvic abscess which I wished to drain.

Ordinarily, we puncture with a pair of sharp-pointed scissors, separate the blades while withdrawing the instrument, and seek then to insert a drainage-tube, which we willingly stitch to the vaginal wall. On such an occasion, I had punctured with an ordinary trocar, and on withdrawing it to replace it by a rubber-tube to drain the sac of pus, I was greeted by a spurt of arterial blood which compelled me to hastily pass a ligature through the broad ligament and twist up what vessels it might surround. This serving only partially to arrest the hemorrhage, I was obliged to pack the vagina firmly and forego my drainage for the time.

The present instrument not only avoids the possibility of getting into a false passage, in that it already occupies the same tract followed by the trocar, but by the steady pressure exercised in all directions it will also guard against the occurrence of hemorrhage through a wounded blood-vessel, unless, indeed, such a point chanced to face one of the eyes of the tube; but here, again, would a slight traction upon the tube displace this juxtaposition and close the vessel.

Both of these instruments are made for me by Messrs. Reynders & Co., New York.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE NEW REGIUS PROFESSOR OF PHYSIC IN THE UNIVERSITY OF CAMBRIDGE—ANTISEPTIC PREPARATIONS OF CATGUT AND SILK AND THEIR RELATION TO WOUND INFECTION—ATROPHY OF THE TESTICLE PRODUCED BY TORSION OF THE SPERMATIC CORD—THE LATE MR. W. H. MICHAEL, Q.C.—A MEDICAL BISHOP.

LONDON, February 27, 1892.

THE appointment of Dr. Clifford Allbutt as Regius Professor in the University of Cambridge (in succession to the late Sir George Paget) will certainly come as a surprise to many. Dr. Allbutt is a distinguished physician and a clinical teacher of no small repute. He is a graduate—in both Arts and Medicine—of the University in which he now becomes a professor, and has also been an Examiner in Medicine. A few years ago, however, Dr. Allbutt relinquished all his appointments and gave up an extensive consulting practice at Leeds in order to accept a Commissionership in Lunacy. This office precluded him from private practice, and he fixed his abode in the metropolis. Dr. Allbutt now engages for a second time in a career in which he has already attained eminence. He is an original and outspoken thinker, and gave offence to many by his vigorous onslaught on some forms of specialism in the Goulstonian Lectures delivered before the College of Physicians in 1884. A man of very wide views himself, Dr. Allbutt may be trusted to worthily fill the post Sir George Paget adorned for so many years, though he is in many respects a marked contrast to his distinguished predecessor.

At the last meeting of the Medical and Chirurgical Society a communication from Surgeon-Captain Macpherson was read, in which the causation of suppuration in wounds by ligatures supposed to be aseptic was discussed. The author described a number of experiments which he had made with various materials, and said he had arrived at the following conclusions: 1. That all so called antiseptic preparations should be received with caution, and that there was good reason for rejecting such preparations of catgut. 2. Antisepsis could be obtained with certainty by boiling or steaming—the simplest, cheapest, and most efficient means of all. 3. Material thus rendered aseptic might be readily kept aseptic in bottles containing no solutions of any kind. 4. The methods of keeping ligature material aseptic by means of solutions—as suggested from time to time by various surgeons—were unnecessary. 5. The most aseptic material sold by surgical instrument makers was probably the fine undyed silk twist, untreated by any septic material.

An animated discussion followed the reading of Surgeon-Captain Macpherson's paper. The president (Mr. Timothy Holmes) said he had never experienced any ill effects from the use of catgut for ligatures and sutures, but he apparently stood alone in this optimistic view. The next speaker, Mr. Howard Marsh, mentioned a case (amputation of the thigh) in which the wound became foul within forty-eight hours along the tracks of the sutures and ligatures, and the patient ultimately died; he had no doubt that this was due to a septic condition of the catgut and of the carbolic preservative fluid. At St. Bartholomew's Hospital there was a profound distrust of material obtained from the instrument-makers for ligatures, and no house-surgeon would think of allowing anything to be used which he had not himself prepared. When properly prepared, he did not think there was any difference in this respect between silk and catgut, though he preferred silk himself. Mr. Barwell referred to the method of preparing catgut. The intestine, he said, was first partly macerated for the removal of everything except the muscular coats, and these, still containing putrefactive organisms, became converted into catgut. Catgut was then, without further sterilization, stored in carbolized oil, which was known not to be a sufficiently powerful germicide to destroy the organisms. He kept his materials for sutures and ligatures in solutions of perchloride of mercury, or of carbolic acid, for long periods before using them. Mr. Bruce Clarke said he had for several years given up the use of catgut kept in carbolized oil and employed in preference silk rendered aseptic by boiling. He described the ligature bottle in use at St. Bartholomew's Hospital. Mr. Stanley Boyd said catgut kept in carbolized oil had been for some time past condemned on the Continent, and mentioned Volkmann's case in which a patient died of anthrax produced by a catgut ligature which had originally been made from the intestines of a sheep which had died from anthrax. The material used ought to be non-absorbent, and he used silkworm gut for deep sutures and horsehair for superficial ones, and found both very satisfactory. Mr. Golding Bird remarked that those substances were the best which were least likely to be digested—such as silkworm gut, silk, or wire. Mr. Watson Cheyne said he should never think of using anything which he had not himself rendered aseptic. He had not experienced much suppuration from the use of catgut sutures or ligatures, though they might contain putrefactive organisms, but it was probable that micrococci rather than bacilli were most injurious to wounds. At King's College Hospital the materials as obtained from the makers were loosely reeled and rendered aseptic by immersion in strong carbolic solution (1 in 20). He did not agree with the author's fourth conclusion, but thought it safer to keep sutures and ligatures in some antiseptic solution. Dr. Heywood Smith said he thought silkworm gut was the best material for

sutures. Mr Bowlby then replied for the author and said that one reason why he had recommended in his paper that ligatures should be preserved in a dry state was that they were then less liable to be a source of bacterial infection, as it was well established that organisms required some moisture for their development. Silkworm gut had not been referred to in the paper as it was unsuitable for ligatures on account of its stiffness.

Mr. Bryant then read a paper in which he gave an account of a case of torsion of the spermatic cord, with strangulation of the testicle, which occurred in a boy, aged fifteen, with an imperfectly descended testicle. The case was at first diagnosed as one of strangulated hernia, but an exploratory incision revealed its true nature. Three half-twists made inward completely untwisted the cord and an attempt was made to save the testicle, as it was quite warm, but it wasted, though the wound healed kindly and the patient made a good recovery. Mr. Bryant said that at the time (1889) he thought the case was unique, but since then Mr. Nash, of the South Devon Hospital, had forwarded to the College of Surgeons a preparation which was clearly of the same kind. In both cases the affected testicle was on the left side and was incompletely descended, but in Mr. Nash's case the twisting was reported to have occurred at the external ring, while in the author's case it took place within the inguinal canal. Mr. Bryant said he felt sure that such cases had been described among those of inflammation of an ectopic testicle, and he believed that one such had been published by Mr. Jacobson in the third volume of the last edition of Holmes's "System of Surgery." Mr. Bryant was also disposed to think that many of the cases of atrophy of the testicle which had taken place after a supposed inflammation coming on without any clear cause were of this nature, the strangulation of the cord in such cases being less severe. As an appendix to his paper he gave a case of the same kind which had been reported to him by Dr. W. Keen, of Philadelphia.

A short discussion ensued. A letter was read from Mr. Bland Sutton describing a specimen of axial rotation of the right testis in an old pug dog, and the specimen was exhibited. It was remarked that cases similar to those described by Mr. Bryant had been recorded in Germany, by Bramann. Mr. W. G. Spencer said Dr. Nicalodoni had described some similar cases in *Langenbeck's Archiv* for 1885. Mr. Hulke asked if in Mr. Bryant's cases there had been a long mesorchium. He referred to a paper of his own (read before the Society in 1866) in which he had described large sacs in the scrotum, and the testes floated in and out of the peritoneal cavity suspended by long mesorchia. Dr. Herbert Spencer referred to a specimen shown by Mr. W. G. Spencer (which Mr. Spencer had stated was not really similar to Mr. Bryant's cases though somewhat resembling them) and asked Mr. Bryant if he had noticed any band at the time of the operation; he was of opinion that extravasated blood at the time of birth sometimes prevented the descent of the testes into the scrotum, and that a band sometimes remained in after-life as a sign of this extravasation. Mr. Bryant then replied and said that the testicle was only just showing through the external abdominal ring, that there was a long mesorchium, and no sign of any band.

A remarkable career is closed by the death of Mr. W. H. Michael, Q.C. He attained considerable success in two professions—those of law and medicine. For about twenty years he was in general practice in South Wales, but relinquished his large practice in order to become a barrister. While in practice he gained a considerable repute as an obstetrician, and was often consulted by his professional brethren in difficult cases. He was equally successful in the legal profession and soon obtained a large practice at the parliamentary bar — especially in matters relating to gas and water, and various sanitary questions. His legal career extended over rather more than twenty years. As another example of success in two professions may be mentioned Dr. John Wale Hicks, of Cambridge, who has just been designated as a Colonial Bishop. Dr. Hicks is a Fellow of the Royal College of Physicians, and a graduate in medicine of the University of London, though he has not been in practice for many years past, but has been a Resident Fellow at Sidney Sussex College, Cambridge.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 12, 1892.

	Cases.	Deaths.
Typhus fever	12	8
Typhoid fever	6	0
Scarlet fever	223	34
Cerebro-spinal meningitis	0	3
Measles	331	18
Diphtheria	107	31
Small-pox	1	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Plastic Bronchitis.—Dr. Józefowicz describes in the *Gazeta Lekarska* an interesting case of that somewhat rare disease, plastic bronchitis, occurring during the course of acute articular rheumatism. The patient was a student, nineteen years of age, who complained of a troublesome cough with lancinating pains in the chest. The expectoration was muco-purulent, and contained some blood and fibrin. In the course of the disease one night a sudden paroxysm of cough occurred, with copious bleeding from mouth and nose, and expectoration of flesh-like masses. Dr. Józefowicz, on examining the expectoration, found in it masses of coagulated fibrin, partly presenting ramifications, as if coming from the smallest bronchi, and partly cylindrical, corresponding with the shape of the larger bronchi. Shreds of membrane of various thickness were also found, probably coming from the largest bronchi, or possibly from the the larynx and nose. The microscope also discovered numerous pus corpuscles, epithelial cells, and red blood-corpuscles. The etiology of plastic bronchitis is not sufficiently known. Phthisis, bronchial catarrh, general debility, atmospheric influences, diphtheria, and typhoid fever are mentioned as causes of the disease, and it is also found associated with mitral insufficiency or stenosis of the auriculo-ventricular orifice. This connection existed in the present case, as, even during an early period of the rheumatic affection, both these heart symptoms were diagnosed. Another symptom to be taken into serious account was the infiltration of the lung parenchyma, which could not be referred to an existing fibrinous pneumonia. Probably it was due to an exudation of blood, or possibly of fibrin, into the pulmonary vesicles. Hæmoptysis is generally insignificant and very rarely profuse —*The Lancet.*

Snake-bite.—Dr. Kaufmann, who recently took the Orfila prize of the Paris Academy of Medicine for a memoir on serpent venoms, says that chromic acid is the best remedy for snake-poisoning. It is employed in one per cent. solution by intramuscular injection, the needle being plunged into the tissues at the point where the bite was received. In this strength, he says, the acid exerts no caustic action in the tissues, while it destroys thoroughly the toxic properties of the venom.

Medical Advertising, both direct and indirect, is growing in favor with a certain class of doctors, and their more quiet brethren do not know how to stop them.

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Original Articles.

ASTIGMATISM; ITS RELATIVE IMPORTANCE IN ASTHENOPIA DUE TO ERRORS OF REFRACTION.

BY D. B. ST. JOHN ROOSA, M.D., LL.D.,

PROFESSOR OF DISEASES OF THE EYE, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL.

A LONG and painstaking experience in correcting errors of refraction, for the purpose of relieving asthenopia, will finally show that the difficulties in accomplishing the best results possible are not as great as they seemed to be in the infancy of our knowledge of the subject. I say infancy deliberately, because it was not until 1861 or 1862 that any accurate work of this kind, based on the investigations of Donders, of 1859, was done in the United States, and then only in the great cities and to a limited extent.

It was not until 1861, or thereabouts, that there was any exact knowledge of general accord in the profession on the matter of the prescription of glasses. This was when astigmatism and hypermetropia began to be understood. As an illustration of what I am saying, I may refer to an article upon astigmatism by the late Freeman J. Bumstead in the *American Medical Times*.[1] That such an elementary article was needed at that time shows how far we have now come in the progress of knowledge upon this subject, and what an infancy we were then passing through. It is interesting to note that Dr. Bumstead states in his article, which was founded upon a single case of myopic astigmatism, that "cylindrical glasses cannot at present be made in this country, at least in New York."

In these thirty years the profession in the United States has learned that asthenopia, when not dependent upon constitutional conditions, chiefly results from hypermetropia, hypermetropic astigmatism, or mixed astigmatism. Fitting glasses for myopia and presbyopia is comparatively simple work, and the rules for it are not very much in dispute. Those who come to the oculist with these conditions are not usually asthenopic, but simply require glasses, in order that they may see more distinctly, either at a distance or near at hand.

When we come into the field of asthenopia of young people, which is usually based upon hypermetropia or hypermetropic astigmatism, we are on ground which, although often fought over, cannot be said to be in the full possession of any one of the parties that claim the right to it. A more complete understanding and agreement as to the proper mode of procedure in these cases of asthenopia, and chiefly by the use of the ophthalmometer, is being reached. It is easy by its use to exactly measure the corneal astigmatism in every case. We can, therefore, I believe, dispense with any mydriatic for the purpose of suspending the accommodation, except in very rare and entirely exceptional cases. We have only to subtract one-half a diopter, as Javal has taught us, from hypermetropic astigmatism, "with the rule," that is, the vertical meridian being the one of greatest refraction, and to correct the full degree of astigmatism of that "against the rule," to be able to know in a large proportion of cases just what glasses are adapted to the patient, independent of his or her answers.

Retinoscopy, now greatly lauded where the use of the ophthalmometer is not thoroughly known, also is far behind the exact, because objective determinations of this instrument. Retinoscopy may be entirely dispensed with in determining astigmatism.

This is a great advance. But I believe, working on the same lines, that we can go a step further in the asthenopia of young persons, and that is, we may disregard the hypermetropia that almost always exists, and prescribe only cylindric without spherical glasses. That is to say, it is sufficient to correct the astigmatism which we find by the ophthalmometer. If the patient is not presbyopic, he will himself comfortably overcome the hypermetropia, until presbyopia has occurred, when it will be no longer possible, and the glasses will be stronger in proportion to the degree of hypermetropia. Hypermetropia may be said to be the refraction of the normal eye, as has been claimed in a recent number of this Journal by Dr. Van Fleet, and has been previously more than intimated by myself and others.

I believe it is high time that the whole subject of normal or usual refraction of the human eye was rewritten. Donder's work was only the beginning—a correct and epoch-making beginning, it is true—but with the imperfections of a beginning in the elucidation of a science which is still very young.

I cannot undertake to say, from my three years' experience in correcting hypermetropic astigmatism by the ophthalmometer, that we can lay down a positive rule as to what degrees of hypermetropia may be disregarded in the case of young subjects, while the astigmatism alone is corrected, but I am inclined to think that as high as two and a half diopters may thus be treated, and possibly, sometimes more. A large number of observations, continued for a long time, may be necessary to show those not now using this instrument the great advantage in the use of the ophthalmometer over the other methods of determining, and consequently of correcting the refraction, especially in those cases of which I am now writing. Perhaps we may lay it down as a rule that spherical glasses need not be prescribed when the vision is not improved by spherical glasses, or even in facultative hypermetropia, when the vision is the same with or without spherical glasses. This leaves a relatively small number of those who consult us in regard to asthenopia to be fitted with spherical glasses. As is generally known, myopes are not usually asthenopic, although myopia has many dangers, nor are presbyopes. Those who have asthenopia are in large proportion young persons, or relatively so, that is, under thirty-five years of age, and they usually are hypermetropic. In the term asthenopia I include headaches beginning in the eyes or directly referred to their use, and which usually cease when the eyes are not used in fine print, or sewing, or similar occupations. Very few people who have no positive ocular symptoms, but who because they have neurotic symptoms think their trouble may have its origin in the eyes, come to me. Those who do so are usually sent by a neurologist. I do not often find that such patients secure much lessening of their general symptoms from the prescription of glasses, although uterine patients do in large proportion. As I have had occasion to say in other papers, if irritation be reflected from an organ there will usually be irritation in the organ itself. Wax in the ear that causes epilepsy will also produce impairment of hearing and tinnitus. A foreign body in the eye that causes sympathetic irritation will also cause serious consequences at

[1] Vol. vii., p. 203, October 31, 1863.

its point of entrance or somewhere in the globe; a diseased tooth that causes failure of accommodation or keratitis will have a tender gum.

I do not believe that the eyes are a source of disease when no organic lesion can be discovered in them, or when no congestion exists in them, or no asthenopia results from their use. There has been very little added to what Donders wrote in the treatises and papers that is both true and new, except in the writings that are based upon the conclusions of the ophthalmometer. Many writers have rung changes upon the old tunes, but until we had an objective means of measuring astigmatism even Donders's errors remained uncorrected, while the subject upon which he appears to have no very positive ideas, that is, the insufficiencies of the muscles, have been greatly expanded in the line of Graefe's investigations, as well as those of Loring and others upon the insufficiencies of the interni, and the old French errors of muscular asthenopia have been revived and expanded, especially in this country.[1]

It was formerly the habit of most of the oculists, with whose work I am familiar, to correct a certain proportion of the hypermetropia, and if astigmatism existed, to correct nearly the whole of this. This was my own plan. My conviction is that a correction of the astigmatism will usually be sufficient. If this be so, it will be readily seen that we can get on without the mydriatic, which is an incidental point that I am endeavoring to make. It is not to be denied that the method just mentioned, of correcting both a part of the hypermetropia and all of the astigmatism, produced good results in a majority of cases, but I am inclined to think that the simpler and easier plan of correcting only the astigmatism is even better, and that it succeeds in some cases when the other failed.

Those who are familiar with my views upon asthenopia well know that I do not believe that it is possible to relieve every case of asthenopia, even in young people, or in those who are not presbyopic, by glasses. Nervous exhaustion in one form or another—and it has many—comes in to prevent this, and many are finally relieved not by glasses but by hygiene, and so sometimes by drugs.

But the correction of errors of refraction must be newly studied in the light of the perfection of the ophthalmometer by Javal and Schiötz, and in that of the rapidly accumulating evidence that the hypermetropic eye is the normal one, and astigmatism also is a widely prevalent condition, which if not of so high a degree as to impair vision, even to a greater degree than was formerly supposed, produces no harm, no asthenopia. It is not too much to say that these advances in our knowledge will produce finally a revolution in the science and art of the correction of errors of refraction. It is amazing that the change is not already more widespread.

In Germany it may have been retarded by prejudice, but that cannot obtain in our country. The following cases illustrate to some extent what has been said in the preceding paragraphs. They are appended to make them more fairly understood, and not with any idea that they embody the whole of the final truth on these subjects.

Case I. *A Neurotic Person, with Headaches, gets Relief from the Correction of Astigmatism only.*—Mr. W——, aged thirty. This patient was sent to me by Dr. C. L. Dana, who wished his eyes examined, not that Dr. Dana supposed that all his symptoms were caused by his eyes. He said that he had been subject to headaches for the last ten years; there is constant pain in his forehead, vertex, and occiput, and at times a sharp pain starting from the right eye and extending over the right side of the head to the back of the neck. He does not think his eyes cause his headache, but his eyes pain him when he uses them. His general health is good. He is wearing glasses of + 0.50 D. spherical. He has a sister and brother who were relieved of headaches by using glasses for astigmatism. His vision is $\frac{20}{20}$ in each eye; becomes $\frac{20}{15}$ by using a glass of + 0.50 D. + 0.50 c. 90°. The ophthalmometer shows him to have only 0.75 D. with the rule, on the right side, and 1.25 on the left. He was ordered a + 0.50 c. 90° for the right eye, and for the left + 0.75 c. 90°. Two weeks afterward the patient came in to say that he did not have so many headaches, did not frown, glasses seemed to be a rest to him, liked them very much, and four weeks later he said the same. This patient has considerable hypermetropia, besides the astigmatism. It is my belief that such cases of astigmatism are usually much benefited by cylindrical lenses, although these headaches do not entirely disappear. Less neurotic persons will sometimes tolerate as high a degree of astigmatism without headaches and without asthenopia. This is what I should call a mixed case.

Case II. *A Clerk, who has always had Headaches at Intervals, finds Ocular Relief from the Correction of Astigmatism.*—Henry J. S——, nineteen years of age. A clerk by occupation. He states that he has been subject to headaches all his life, his eyes pain him on use, blurring at times. His general health is good. His headaches are in his eyes and run up to his head; he sometimes wakes up with them, but he gets worse on use of his eyes. His vision in the right eye is $\frac{20}{40}$—becomes $\frac{20}{20}$ by using + 0.50 c. 90°, same result on the left side. At some moments he declines all glasses on the left side. This is one of the eyes in which the cornea moves under the instrument, and it is very difficult to measure with the ophthalmometer, but we discovered at least that he had 1 D. with the rule at 65°, that is, 25° off from the vertical in the right eye, and 1 D. with the rule at 90° in the left. He had 1.50 D. of hypermetropia, and was ordered + 0.50 D. + 0.50 c. 65° in the right, and + 0.50 c. 90° in the left. Fourteen days after he writes: "I find the glasses you prescribed for me have been a great help; have had no headaches since, and my eyes feel very much rested after a day's work." Nothing has been heard from him since.

Case III. *Nervous Exhaustiona Cause of Asthenopia; very low Degree of Astigmatism; Relief only by giving up Use of his Eyes.*—The patient was sent to me by Dr. George T. Elliot. He is a student at Yale College, and had worked very hard to get into college. He entered without conditions, but, after getting in, finds he has so much pain in his eyes and head on use, and so much blurring, and so much general debility and indisposition to work, that he wishes to know what can be done for his eyes. He lived a very sedentary life before going into college. His vision is $\frac{20}{20}$ + in each eye. By the ophthalmometer he has 0.75 D. with the rule in the right eye, and 0.50 D. in the left; considerable hypermetropia, say two diopters. I expressed the opinion that his was a case in which the asthenopia was only a small part of the general condition, and I prescribed that he leave college and devote himself to an out-of-door life for a year, when I hope he may return without being oppressed by the use of glasses. If he had had a diopter and a half of corneal astigmatism, instead of the low degree which he did have, I would have expected a little more from glasses.

Case IV. *A Lady in Good Health, nearly Forty, has Asthenopia in the Evening; gets Relief from the Correction of Astigmatism only.*—This lady complains of asthenopia in the evening. She is in fairly good health, not particularly robust. Her vision is $\frac{20}{20}$ + in each eye. She has 2 D. of astigmatism with the rule. Her general refraction is hypermetropia. She was ordered a + 0.75 c. 90° in

[1] In a recent paper by Dr. G. A. Berry, of Edinburgh, in the Transactions of the Ophthalmological Society of the United Kingdom, vol. xi., p. 57, occurs a paragraph which is likely to disturb the equanimity of those who speak of us who disbelieve in muscular asthenopia as such a small minority:

"For my part, I regard the practice, which to judge from the literature of the subject is not uncommon in America, of frequently performing tenotomies, or so-called partial tenotomies for lateral deviations, as a disgrace to modern ophthalmology. As to the frequent ordering of prisms for similar conditions, that is a practice which, while it displays the same ignorance, is open to less serious objections, inasmuch as it only affects the pockets of the patient and that to a less extent than operative interference."

each eye for close work. She came six months later to see me, on account of another patient, and she told me that her asthenopia had been entirely relieved, that her glasses were perfectly comfortable. This is an interesting case, from the fact that the lady is nearly presbyopic, aged thirty-seven, and that she is able, without any correction of the general hypermetropia, to get on in perfect comfort with the correction of the astigmatism.

CASE V. *Blepharitis and Asthenopia; Relief from Correction of Astigmatism.*—Mrs. D——, aged thirty-five. This patient suffers from asthenopia, and chronic blepharitis. She was found to have nearly normal vision, and accepted cylindrical glasses. On the right 1 D., on the left .50 D. Her refraction was hypermetropic. The ophthalmometer made the corneal astigmatism 1.50 D. on the right side, and 1 D. on the left. She was advised to wear + 0.75 c. 90° and + 0.50 c. 90° on the left for close work, with no correction of the hypermetropia, and two months after she reported that her glasses were perfectly comfortable.

CASE VI. *Headaches and Double Vision; Correction of Astigmatism only; Relief.*—Miss A. D——, aged twenty-eight. This patient has had many headaches, for which she has worn + .50 D. and + .50 c. 90°. At times she sees double. Her vision is $\frac{20}{30}$ —. By the ophthalmometer she has 1 D. of astigmatism in each eye, with + .50 c. 90°. Her vision becomes $\frac{20}{20}$ —. She had three diopters of hypermetropia in each eye, but this was totally disregarded; + .50 c. 90° ordered for each eye, and six weeks after she wrote that her glasses were comfortable, and that the headaches were less frequent. This again was a neurotic case in which the astigmatism became the last pound to break the camel's back.

CASE VII. *Double Vision; Headaches; Relief by Correction of Myopia and Astigmatism.*—Maria C——, aged eleven. This young girl complained of headache and of seeing double. Her vision is only $\frac{20}{100}$ in each eye. By the ophthalmometer she has 3 D. of astigmatism with the rule. The prominent feature in this case is the marked insufficiency of the interni, and the occasional double vision. Her refraction was myopic. She was ordered a —1 D. in the right eye, added to a —1.75 c. 180, and in the left a —5 D., added to a —1.50 c. 180, with which her vision became $\frac{20}{30}$ in the right eye, and $\frac{20}{40}$ in the left. She was seen one year after, when she stated that she was much more comfortable, very much improved, never sees double, but her eyes "get twisted sometimes, but they soon get untwisted." The concave sphericals were increased, but the cylindricals remained the same. This case illustrates the fact that positive double vision may be entirely relieved by the correction of the astigmatism. I have never asserted that prisms may not in some cases do the same thing, but with a correction of the refraction, muscular insufficiencies are fundamentally cured, not merely assisted by crutches.

CASE VIII. *Double Vision; Migraine; Partial Relief from Correction of Astigmatism.*—This patient has been subject to headaches since she was a girl. The eyes do not pain her, but she has "some doubling of vision" when she has the headache. Sees objects double. There was no double vision when she visited my office. The pain was chiefly over the orbit, and then in the back part of the eye. The diagnosis, by Dr. Graeme Hammond, who sent her to me, was migraine. Patient said this could be easily induced by anything requiring constant use of the eyes. Except being anæmic, patient was well. Her eyes had been put under the influence of atropine before she came to the office. With the ophthalmometer, on the right side, she was found to have 1 D. of astigmatism with the rule, the axis being from 30 to 35° from 90°. In the left eye she had 1 D. with the rule. She was advised to wear, for close work, on the right side, + 0.50 D. + 0.50 D. c. 45°, and on the left, + 0.50 D. c. 90°. Her vision was $\frac{20}{20}$ in the right eye, and $\frac{20}{30}$ in the left, with these glasses. These glasses proved to be perfectly comfortable. Six months later, the patient stated that she could read all the evening, but she could not sew, and she had an occasional sick headache, but not so many as formerly. She liked her glasses very much, and was disposed to wear them all the time, to prevent what she calls dizziness and double vision. The patient is still anæmic and neurotic. I think this she will always be, but the glasses are great palliatives.

CASE IX.—The following case illustrates the interesting observation that correction of the astigmatism is sufficient, where there is a very slight degree of astigmatism against the rule, and considerable hypermetropia.

Mrs. A——, aged thirty-six. This lady has had trouble with her eyelids for five or six years. Has blepharitis ciliaris; no asthenopia. What I observed in 1878, in my first paper on the relations of blepharitis ciliaris to errors of refraction, was markedly true here in regard to the absence of asthenopia. Patient's vision was $\frac{20}{30}$—. With the ophthalmometer she had 0.25 D. astigmatism against the rule. On some examinations with the ophthalmometer she seemed to have no astigmatism, but we finally concluded that there was separation of the mires, to the extent of 0.25 D. in the second position. She was ordered + 50 c. D. 180 in each eye. Three months later, the patient writes that she has had no trouble since using the glasses.

CASE X. *Asthenopia; Relief from Correction of Astigmatism alone.*—Susie L——, aged sixteen. November 14, 1891. The patient's eyes smart, burn, and pain on use; occasional headaches. The trouble has existed but a very short time. Is using her eyes eight hours a day, sometimes ten hours. Her vision is $\frac{20}{20}$+ in each eye. She has 1 D. of astigmatism, and her eyes are hypermetropic. She was ordered a + 0.50 c. D., 90°, and three weeks later she writes me: "My eyes are not at all painful, and are much improved from using the glasses."

CASE XI. *A Case in which Correction of the Hypermetropia and Astigmatism was not as Beneficial as Correction of the Astigmatism only.*—An insurance underwriter, aged twenty-seven, uses his eyes all day; has had trouble with them since he was twelve years of age; watering, tired feeling, etc. Began to wear glasses in 1886. Has had excellent advice, but has always worn spherical as well as cylindrical glasses. He has 0.50 D. of astigmatism against the rule. He has 1 D. of hypermetropia by the ophthalmoscope. Judging from the records of competent men which he brought with him, he had much more under atropine, for he was wearing as much as + 4 D. sphericals added to his cylindrics. He was ordered + 1 c. D., 180° for the right eye, + 0.75 c. D., 180°, for the left eye. On December 22, he writes: "The glasses you prescribed for me have not only relieved me from all the headaches I have had so long, but have been as a new pair of eyes to me."

This case illustrates in a marked way the general theme of my paper, that is, that the astigmatism is the chief factor in producing asthenopia. This patient has had more comfort under correction of the astigmatism alone than when the hypermetropia was also corrected. But as I have already said, we must always regard a considerable degree of hypermetropia as a normal condition; and as I shall show in a subsequent paper, astigmatism even by itself, although more disturbing, as a rule, than hypermetropia, requires, so to speak, a certain setting, in general neurotic conditions, in over-use of the eyes, nervous exhaustion, the coming on of presbyopia, and other concurrent factors, before even it will produce asthenopia. The almost complete uselessness of paralyzing the accommodation, when we can now accurately and quickly determine the corneal astigmatism by the ophthalmometer, is also incidentally shown.

A Health Treaty between the United States and Mexico, "for the reciprocal protection of both countries against infectious diseases of men and animals," has been suggested by the Board of Health of the City of Mexico.

THE CAUSATION AND TREATMENT OF CHRONIC DIARRHŒA.[1]

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It is not always possible to connect chronic diarrhœa with a distinct lesion of the intestine, nor can we limit its origin to functional or organic defect of the digestive system. It is by no means rare to find it one of the symptoms of disease of a distant organ, or disorder of nutrition, or defect of elimination. But chronic diarrhœa is a symptom so frequent that it may serve as a convenient point from which to begin investigation so important as to often command our whole attention, and so predominant as to dictate the treatment. Whenever present it stands out in bold relief in the clinical picture, and necessitates a search for its hidden meaning. The term "chronic diarrhœa" may be made to serve a useful clinical purpose, and no apology need be offered for selecting it as the subject of a paper based on investigations at the bedside.

Fluidity is the most constant characteristic of the diarrhœal stool. This physical quality results from excessive secretion, or transudation, or increased peristalsis and diminished absorption. The stools are also altered chemically and microscopically, but the character of the discharges varies very much with the age, diet, the nature, and location of the disturbance. The frequency of the evacuations is also no criterion, and varies widely both in health and in disease. But habit and other influences establish a certain routine which, though it varies with each individual, may be taken as a standard. The character and frequency of the stools will nearly always enable us to make out the presence of the symptom. Moreover, diarrhœa, whether conservative or not, is always an exhausting process, and when long continued must inevitably affect the general health. Hence, chronic diarrhœa may be defined as the frequent evacuation of the fluid, and usually abnormal, contents of the intestine, with more or less impairment of the general health.

A classification of chronic diarrhœa based on the changes in the stools is not desirable. A careful study of the stools will not fail to yield some useful information. But in the same case the character of the stools varies from day to day, and bears no definite relation to the lesions.

A classification based on etiology would be more scientific, and stands in direct relation to the advanced treatment which strives to go beneath the surface and strikes at causation. A careful review of the possible causes will aid very much in formulating a rational treatment, but our knowledge at present is too incomplete to enable us to make a scientific etiological classification.

A nomenclature based on pathological findings is neither desirable nor practical. Morbid anatomy is only a symptom of unhealthy cell activity, and widely different processes find expression in the same tissue changes. But the lesions must be taken into consideration in formulating the treatment.

In studying a case of chronic diarrhœa, I constantly keep before me two objects of commanding importance: the detection of the proximate and remote causes, and the discovery of the nature and location of the intestinal lesion. In this way we gain all the information that is of most value in the management of the case.

The proximate cause of every diarrhœa is located in the intestinal wall. The intestine is a secreting, absorbing, and eliminating tube, which propels its contents in a peculiar way, and in which the most important part of digestion takes place. In diarrhœa, too much fluid is poured out from the mucous membrane, or too little fluid is absorbed, or the contents of the intestine are hurried along too rapidly. It is common to find two, or even all, of these factors active in a particular case.

[1] Read before the Medical Section of the New York Academy of Medicine, February 16, 1892.

Diarrhœa from supersecretion is a frequent variety. It is commonly due to local irritation, with here and there patches of catarrhal inflammation. It is also found in chronic nerve or blood states, and may often be traced to auto-infection as the remote cause. Chronic dyspeptic diarrhœa may be taken as the type of this form. Much mucus, and a disproportionate quantity of undigested food, especially starch, are found in the stools.

The excess of fluid may be an exudate, as in a condition of the mucous membrane analogous to an eczema or herpes. Or the fluid may be transuded in passive congestion, such as occurs in hepatic cirrhosis, obstructive disease of the lungs, or uncompensated valvular disease of the heart. The pathognomonic sign of this variety is the presence of serum-albumin in the stools.

The intestinal mucous membrane is also an eliminating organ, and diarrhœa is not rarely due to exaggeration of this function. The diarrhœa of chronic Bright's disease and septicæmia are types of this form.

Diminished absorption may be the starting-point of a diarrhœa. But a diarrhœa originating in this way will not long remain simple, as the resulting superdigestion, fermentation, and putrefaction will produce supersecretion, exudation, and excessive peristalsis. Impaired absorption always forms one of the links in the etiological chain, and has as much to do with the persistence as with the causation of diarrhœa. The stools contain completely digested products.

Diarrhœa from excessive peristalsis is neuro-muscular in origin, and occurs in its simplest form in neurotics with lively reflexes or with hyperæsthetic mucous membranes. Exaggerated peristalsis, however, usually results from a local irritant. A stool occurs regularly and rapidly after each meal, and consists chiefly of unaltered food.

From this it will appear that diarrhœa is wholly or in part a conservative process in every variety, except that which is purely nervous in origin, and this variety, it must be admitted, is but rarely met with.

These divisions are based on unhealthy variations in the physiological processes—the surface-play of concealed forces. While it will not clearly reveal, the manner of appearance of the diarrhœa will suggest the salient features of the underlying disturbance. The kind of fruit or flower will enable us to infer something of the nature of the seed, and the development of the plant. It is always difficult, and sometimes impossible, to discover the remote cause, be it located in a disorder of nutrition or hidden in the disease of a distant organ.

Disease of the kidneys, heart, liver, lungs, and spleen must usually be well marked in order to produce a diarrhœa. Anæmia, gout, leukæmia, Hodgkin's disease, scurvy, syphilis, tuberculosis, and septicæmia must also be passed in review and excluded.

A very large percentage of all cases of chronic diarrhœa find their origin in derangement of one of the three great processes of nutrition—digestion, absorption, and metabolism. The perfection of each one is essential to the integrity of the whole, this constitutes the solidarity of the nutritive processes. From a therapeutic stand-point, it is of great utility to locate the primary disturbance. The presence in the urine of the incompletely elaborated products of tissue waste, such as uric acid and the urates in excess, and of pathological urobilin, would point to faulty katabolism; peptones, albumin, or sugar in the urine might implicate assimilation; while the discovery in the stools of the digestive products in a fluid and diffusible form would suggest defective absorption. But the nutritive disorder more often takes it origin in the digestive tube, either in gastric dyspepsia or inflammation, with alteration either in the chemical process or in the muscular movements; or in intestinal indigestion from faulty chyme, bile, pancreatic secretion, or intestinal peristalsis. An insufficient diet, of which simple emaciation will be the evidence; unhealthy food, and impure drinking-water, an improperly constitued diet, will often be found the ini-

tiating causes, though secretion and muscular movement be in every way normal.

An important connecting link in the causation of chronic diarrhœa is auto-infection, which may be from the digestive or from the general system. Absorption of the products of superdigestion, fermentation, and putrefaction is one source; defects of assimilation and disassimilation, increased cell activity and tissue waste, and incomplete elimination are others. The quantity of toxines formed in health may be increased, or new ones may be manufactured in defective nutrition, or bacterial products be absorbed, and self-poisoning will result unless elimination is very rapid. Some of the toxines dilate and others contract the blood-vessels, some alter the blood as well as the blood-pressure, thus impairing secretion or causing exudative or productive inflammation. Some paralyze, others excite, the nerves; all exercise a pernicious influence on nutrition. The prevention and treatment of auto-infection is the most important part of the management of chronic diarrhœa.

It has been ably maintained that we never have a diarrhœa without the presence of an enteritis. But it is now a fact pretty well established by careful autopsies that diarrhœa frequently is not accompanied by noticeable lesions of the intestine. From a practical point of view the detection of the cause is of much greater utility than the diagnosis and location of the lesion. The chief advantage of a knowledge of the anatomical state of the mucous membrane is the light it throws on prognosis. But the nature and location of the lesion afford certain indications in treatment.

I have been in the habit of grouping all my cases into two large classes, according as there is or is not a marked lesion of the intestine, and try to decide whether or not ulceration is present. This classification is somewhat arbitrary, but it is usually possible to group the cases on this wide basis. Our stand-point is at the bedside, and this broad classification, in which minute anatomical distinctions are not made, has a practical bearing.

In the functional disorder the symptoms are milder and may be intermittent, there are no persistent points of tenderness and no thickening of the bowel, and the stools contain no products of inflammation.

A large number of chronic cases with intestinal lesions follow acute attacks that have their remote cause in the digestive system, or form part of the clinical history of the acute infectious diseases. The persistence of pain, tenderness, and fever would indicate the presence of an important lesion. The discovery in the stools of much epithelium, mucus, and unaltered bile-pigment, of pus, blood, false membrane, and pieces of tissue from the intestinal wall, would prove the trouble to be organic. Chronic gastritis with chronic diarrhœa is accompanied by chronic enteritis.

Ulceration of the intestine is simple, syphilitic, tubercular, or malignant. The signs of a lesion, in many cases the strict localization and persistence of a painful and tender point, the presence and continuance of much pus, blood, and mucus, without tenesmus and the detection of bowel tissue in the stools, establish the diagnosis of ulceration. Intestinal carcinoma is usually located in the rectum, and can commonly be felt by the finger through the anus; cachexia and rapid decline will also point to malignancy. Simple ulceration results from a severe catarrh, or from acute or chronic follicular inflammation, and commonly involves a large extent of surface. Syphilitic and tubercular ulceration is more strictly localized, and the disturbance of the digestive process above the lesion is from excessive peristalsis. In syphilis we may get a specific history or characteristic skin lesion, or a persistent headache with periodical exacerbations, and attended by insomnia and unwonted irritability of temper, an early endarteritis, or other sign of this protean malady. Tubercular ulceration is almost never found apart from pulmonary tuberculosis, and the rapid pulse, dry skin, hectic fever, and localized physical signs will confirm the suspicion. The absolutely pathognomonic sign is the discovery of the tubercle bacillus in a shred of the bowel tissue found in the stools.

The character of the stools, the persistent points of tenderness, and other physical signs, taken along with the clinical history, will locate the lesion with a good deal of exactness. The lower the lesion, the more frequent and more painful are the movements. It is rare to find the small bowel alone diseased. The large bowel is nearly always involved, commonly associated with it is disease of the lower ileum. It is near the ileo-cæcal valve that bacteria abound, that fermentation and putrefaction are most active, that irritants long remain in contact with the mucous membrane. When either the small intestine or the colon is alone diseased, there will be periodical attacks of diarrhœa; when both are involved the diarrhœa is likely to be continuous. Pain occurring just before a movement is usually located in the colon. Tenesmus is present only in proctitis. Indicanuria, fatty stools, recurring slight icterus, and persistent flatulency in the small intestine, are pathognomonic of duodenal defect. Much unaltered bile-pigment and mucus intimately mixed with the fæces point to the small intestine. When the trouble is located in the ascending colon the stools are soft, muco-feculent, and little yellow globules of mucus are visible; and hard fecal lumps coated with mucus from the lower half of the large gut. When from the rectum, the stools consist of yellowish or blood-stained white-of-egg mucus, or mucus and fibrin shreds; and the lower colon and rectum may furnish a shred or cylinder, formed of a net-work of fibrin filled with mucus, with here and there an epithelial cell on the surface, or exfoliated casts of false membrane.

Having briefly reviewed such points in etiology, differential diagnosis, and localization as can be utilized at the bedside, turn we now to the treatment.

Good hygienic surroundings, a regulated life, and a proper diet will often suffice to cure a mild diarrhœa. But the severe cases must be subjected to a rigid régime. Many of these patients have tried everything, done nothing thoroughly, and lost faith and hope. An important strategic point is already gained if we win the confidence and arouse so strong a desire to get well as to cause every energy to be bent in the direction that we dictate. The successful management of these cases depends as much on the co-operation of the patient and the detailed observance of directions as on the skill of the physician. It is not enough to order, but instructions must be carefully and cheerfully obeyed. Of so great importance are co-operation and attention to detail, that I no longer try to cure these patients against their expectation and will. They must acquire a soul forwardness toward health—every thought, feeling, and emotion must be enlisted in the work.

Having secured the confidence and hearty co-operation of the patient, we give minute directions as to clothing, bathing, rest, and exercise. From malnutrition and auto-infection the vaso-motor centres are weak and irritable, and paling of the surface leads to a corresponding internal congestion. Hence the necessity of warm clothing, especially over the abdomen, to protect against sudden changes or extremes of temperature and loss of body heat. The rapidity and completeness of reaction guide in the selection and the mode of bathing. In the beginning, a warm plunge or sponge bath in a warm room should be advised, and the difference between the temperature of the air and the water cautiously increased from day to day. The bath improves the function and nutrition of the skin and tones the nervous system. It has been demonstrated that the toxicity of the urine is increased during the administration of the Brandt treatment of typhoid fever, and the increased elimination of toxines is not the least of the benefits derived from bathing. If the stools are frequent and exhausting, absolute rest in bed must be enjoined; during convalescence moderate exercise and fresh air will hasten the cure.

Over-fatigue, mental and physical, must be scrupulously avoided, temperance and moderation being the guides of conduct. The mode of life must be put on a physiological basis, and as much energy and vitality conserved as possible.

The curative treatment of a chronic diarrhœal disease has very little to do with the control of the symptom by the use of opiates and astringents; we must go behind the lesion of the mucous membrane and strike boldly at causation. Behind the veil are the hidden forces at work, beneath the surface are the sources of evil. It is a waste of time to strike at the shadow; it is useless to close the volcano's mouth while the subterranean fires are still burning. The curative treatment of a chronic diarrhœa must be etiological.

Active elimination by all of the emunctories is also a sheet-anchor in the treatment of chronic diarrhœa. Free drainage is the first law of surgery, and free drainage is a controlling principle in the treatment of a chronic disease accompanied by or resulting from auto-infection. We have already seen that a chronic diarrhœa is largely a conservative process, and is just as essential as the drainage of a septic wound. Checking a chronic diarrhœa by astringents and drugs that paralyze muscular movement before the digestive tube is made clean and sweet, can only produce a violent explosion which will widen old rents, or find new points of exit where resistance is weakest. So great is the danger of auto-infection from the alimentary canal that nature has well barricaded the system against invasion from this quarter. An active peristalsis to divert the enemy, mesenteric glands and the liver to arrest and destroy, oxidation to burn, the skin, kidneys, and liver to turn aside or sweep away—these are the strong barriers which our treatment must support and strengthen. Impaired digestion, defective absorption, mal-assimilation, auto-infection, are heavy blows against nutrition. To build up the blood so that it may perform its work is a controlling object. Healthy nutrition is a hope that only careful alimentation can realize. These are the important general considerations: on the one hand, the bright side of the shield, a well-fitting armor, a determination to conquer, and on the other, the removal of the cause, careful alimentation, and active elimination.

Of no less importance are the local indications: 1. To cleanse the alimentary canal and keep its contents sweet. 2. To secure perfect digestion of the food taken. 3. To promote absorption. 4. To diminish the work of the diseased part. 5. To treat the lesions. 6. To treat the sequelæ. 7. To control the harmful symptoms.

Our first object is to cleanse the alimentary canal, and cholagogues and purgatives will render efficient service in its accomplishment. An increased flow of healthy bile will meet more than one indication—it is not irritating, is laxative, and also aids in digestion, absorption, and the prevention of decomposition. Podophyllin, ipecac, salicylate of sodium (or better, salacin and bicarbonate of soda), and the bichloride and biniodide of mercury are the most useful cholagogues. To get their selective action on the liver these drugs should be given in minute doses. Small doses of calomel also act well, especially if the kidneys are sound, or the heart diseased, or arterial tension is high, or the bile-ducts distended. Cascara sagrada is the most valuable laxative—it increases peristalsis by its action on the nerve-supply of the intestine, washes out the glands and follicles by augmenting their secretion, and in laxative doses is unirritating, an important negative quality that often secures for it preference. Those drugs should be selected which least irritate the diseased part; too much care cannot be exercised in this respect, as these remedies cut both ways, and can do harm as well as good. Stomach washing will also help us to clean a part of the alimentary canal. When this important viscus is dilated and incapable of emptying itself completely, when the muscular movement s defective, and the food is fermenting, decomposing, or undergoing superdigestion, the procedure is a valuable one, but must not be repeated too frequently. But when not dilated, and strong enough to empty itself, the stomach can be efficiently and agreeably washed out by copious draughts of hot water. Hot water is also a powerful hepatic stimulant, liquefies the bile and washes out the liver, which is often infected from a septic duodenum, or through the portal vein or hepatic artery. The liver is the great central depot for the arrest, destruction, and elimination of toxic material, and the entero-hepatic circulation should be frequently flushed out. Hot water does this very rapidly and efficiently. The large bowel is the seat *par excellence* of fermentation and putrefaction, and the most frequent source of auto-infection. It can be thoroughly washed out with warm or cold water, to which an alkali should be added if there be much mucus in the stools. The use of antifermentatives and antiseptics is rendered necessary by the inefficiency of lavements, cholagogues, and laxatives to accomplish our purpose—the cleansing of the digestive tube. I only use a few of the drugs of this class, the ones that I have found the most efficient—salicin, the biniodide of mercury, salol, and the subnitrate of bismuth. Salicin is the best sweetener of the stomach, given in ten- to twenty-grain doses, two hours after meals, or one hour before breakfast and retiring. The biniodide of mercury is valuable in small doses when the decomposition is in the small bowel, chiefly on account of its action on the liver. Salol is by far the best duodenal antiseptic. These three drugs act locally, and also by exciting a free flow of the natural intestinal antiseptic—healthy bile. Cholagogues spur onward the entero-hepatic circulation, as Rosenthal has shown that both bile and the biliary salts are hepatic stimulants. Calomel is also an antiseptic, and some aid is derived from its passage along the intestine. Subnitrate of bismuth reaches the large bowel, but is not of much value unless given in very large doses. These drugs are very useful in combating putridity and maintaining the sweetness of the alimentary canal. It has been suggested that bacteria have something to do with digestion; I gravely suspect that enough will be left for this purpose after we have exhausted our means in the efforts to exterminate them.

It is also important to administer clean and sweet food and pure drinking-water. This is a matter of more moment than the little attention we bestow upon it would seem to indicate. How rapidly a septic colitis subsides when an impure drinking-water is withdrawn. How great a change is sometimes wrought by forbidding a food that is too "high" or has not been scientifically prepared. Attention to little details like these sometimes changes the whole course of the disease.

Having secured as nearly as we can a clean and sweet state of the digestive tube, our next object is to get perfect digestion of the food taken. This is an aim second to no other in importance. Undigested food in the wrong part of the intestine is an irritant. Rapid absorption is the chief barrier against superdigestion, fermentation, and putrefaction, and perfect digestion is the essential preliminary to the easy and healthy performance of this function of the mucous membrane. We attempt to realize this high aim by a proper diet, and by increasing or supplementing whatever digestive juice we have reason to suspect is defective. If the stomach is at fault in its chemical work we keep our eye on the acidity of the secretion, for the HCl is an important and the most frequently varying constituent of the gastric juice. The dilute HCl should be given in two or three doses of five or ten drops each, within two hours following the meal, and a small quantity of fresh pepsin may be added I suspect that a dose of toxines is often given in the name of this ferment. In the meantime we give such drugs as are known to increase or diminish the acidity of the gastric juice. If the liver or pancreas be at fault, we use the drugs that have a selective action on these glands, and supplement with fresh bile and pancreatin by the mouth.

It is best to precede their administration by an alkali. The time of giving them is two and a half or three hours after meals, except on the milk diet, when the proper time is just before each feeding. Duodenal digestion is thus made to begin in the stomach. If the muscular movements of the stomach and intestines are defective, strychnia, massage, and electricity will render important aid. Diarrhœa not infrequently has its cause in localized defective peristalsis—the contents collecting in the weak and dilated parts and undergoing putrefaction, fermentation, and hardening. With a clean digestive tube the secretions and movements of which have been regulated and supplemented, it remains to select a proper diet. This is the most difficult and most important part of the treatment. And here the physician should dismount from his "hobbies" and renounce so-called "fads" and "cure-alls." Vegetarianism will rarely fail to do a good deal of harm—the milk diet in its many forms is not a panacea—a diet of animal food will not often fail to benfit, and has a very wide range of usefulness.

In selecting a diet we have a good many things to take into consideration. The evils of exclusiveness all are ready to admit. In any dietary the primary principles must be made to preserve a certain proportion in obedience to the laws of physiological chemistry, and such proportion arbitrarily altered to suit the needs and capabilities of general nutrition. But laboratory results need to be corrected and controlled by the testimony of the human digestive system. The diet habits of mankind and of the different nations of the earth furnish a rich store of information, for man, when permitted to do so, eats what most pleases the palate, keeps him well nourished and strong, and gives the least after-pain. Climate, age, activity, peculiarities, and the capability of the digestive organs are other important considerations. Now, in the diet of a chronic diarrhœa, the food must be chiefly digested by the stomach, contain the right proportion and proper quantity of proximate principles to meet the requirements of secretion, nutrition, and the production of animal heat, and leave no irritating or indigestible residue. Denutrition must be guarded against, and the diseased intestine given physiological rest and kept free from irritation. An exclusive diet of milk, or a diet of meat free from fibrous tissue would fulfil these indications—the one more completely than the other, perhaps—but both must be perfectly digested. Milk is a fluid, but becomes semi-solid during digestion. Meat is a solid, but becomes a fluid in its preparation for absorption. Milk may be a little more easily assimilated, but bulk for bulk is not so nutritious. The final product of the perfect digestion of the one is about as easily absorbed and unirritating as that of the other. Both require great care in selection, and the meat must be properly prepared and cooked. However, it is difficult to get day after day, milk which is free from pathogenic bacteria: it readily undergoes, both in and out of the stomach, chemical and bacterial changes with the formation of irritating and poisonous products; and I have found it well-nigh impossible to secure its continued perfect digestion during a period long enough for a cure to take place. When the gastric juice is hyperacid, or duodenal catarrh, or portal congestion, or fermentation are present, milk will not agree. The supreme test is the one at the bedside. In my experience a meat diet is much more valuable, less dangerous, and of a much wider range of application than milk in the treatment of chronic diarrhœa. Exclusive in the beginning, the meat must be supplemented by bread, cereals, and the more easily digested vegetables in the manner detailed by me in a paper on "The Management of Chronic Gastro-intestinal Catarrh," read before this Section, and published in the *New York Medical Journal*, March 23, 1889. It is the duty of the physician to see that whatever food be taken is completely digested and assimilated, and he has in the daily physical examination of the digestive system, and the analysis of the urine and the inspection of the stools as often as may be necessary (aided if needed by the microscope), a pretty sure guide. If the patient feels no pain, nor discomfort, nor drowsiness after meals, if there is no flatulency, if the urine contains no abnormal coloring matter, nor excess of phosphates, urates, or uric acid, and the stools contain no undigested products, we know that the food is being digested and assimilated, and, if there be no loss of strength, absorbed in sufficient quantity to meet the demands of life.

To avoid denutrition is not alone requisite: the barriers must be made strong; the body must be protected and defended, and built up. Not only a pure and adequate, but also a rich blood is needed. And the quality of the blood, its gain or loss of richness from day to day, can be detected by counting the corpuscles and measuring the hæmoglobin. No physician would now assume the management of a disease of the heart or lungs without the evidence and guidance of physical signs. No physician should now attempt to diagnosticate or treat a disease of nutrition without a study of the blood and excretions.

When we have an alimentary canal clean and sweet, and the lining washed free from mucus, containing a completely digested and unirritating fluid, much has already been done to promote absorption. An active enterohepatic circulation and the control of excessive peristalsis should complete the work. The relief of portal engorgement and the stimulating of the liver will aid the one, while the removal of local irritation and the quieting of the nerve endings and centres, and the strengthening of them by active elimination and improved nutrition have done much to realize the other. These are the curative means, but it is often necessary to control excessive peristalsis in order to keep the contents in contact with the mucous membrane long enough for absorption. Antacids, bismuth, and antispasmodics should be used instead of opium and narcotics. The control of flatulency also increases the absorptive surface.

The value of rest in the treatment of a disordered or inflamed part cannot be over-estimated. Repair is more complete, healing goes on more rapidly. An exudation in the process of organization is easily broken up by movement. Absolute rest of a diseased intestine cannot be attained without stopping drainage, but a great deal can be done by keeping the part free from irritants, and by the use of drugs that will lessen the exaggerated irritability, that will quiet the pathological unrest. The diet should also be selected so as to diminish the work of the diseased part. When the duodenum is the centre of disturbance (as it often is), the stomach must be made to do the work. When the disease is lower down, the diet must be such as is quickly digested and rapidly absorbed, and excessive peristalsis controlled. When the stomach and duodenum are able to do their work well, and the disease is in the colon only or low down in the ileum, a milk diet, if it agree, is superior to any other.

In the severe cases of chronic diarrhœa, when the muscular layer is atrophied or œdematous, or infiltrated with inflammatory products, constipation is very apt to supervene as soon as irritation is removed. I would like to emphasize this important clinical fact—that these weak points in the intestinal wall are often localized, and the obstruction in the drain must be overcome by massage, laxatives, and lavements. To clear out these depots of fermentation and putrefaction is an essential part of the treatment; until this is done there can be no rest, no healing.

The indications afforded by the lesions have been partly met by cleanliness, rest, and the prevention of irritation. If the lesion be syphilitic, specific treatment must not be neglected. When situated in the large bowel something may be accomplished by medicated lavements.

The treatment of the sequelæ resolves itself into the treatment of atrophy and deformity—the results of degeneration and destructive inflammation. A proper diet and a regulated life will aid nature in the readjustment

of the organism to the changed conditions. The deformity may demand the surgeon's skill.

The special and general treatment of chronic diarrhœa must often be modified or supplemented by the treatment of the causative disease.

In conclusion, the indications for the treatment of chronic diarrhœa may be thus briefly stated: 1. To remove or treat the cause, which presupposes its detection. 2. To improve nutrition and conserve energy. 3. To secure active elimination and prevent auto-infection. 4. To cleanse the alimentary canal and keep its contents sweet 5. To secure perfect digestion of the food taken. 6. To promote absorption. 7. To diminish the work of the diseased part. 8. To treat the lesions. 9. To treat the sequelæ. 10. To control the harmful symptoms.

A broad and comprehensive and etiological treatment, and one which I have found successful—a union of many powers which make for health, a union in which "all are needed by each one." It is not sufficient to meet the controlling indications, but regulations must descend into minute details. The moral management of the patient has a powerful and practical bearing. Two important elements of success are individualization and the persistent doggedness with which one enforces right living. The prescription of drugs is a very small part of the work which we have to do. The chief aim—the definite therapeutic purpose—is to secure healthy nutrition by careful alimentation, perfect digestion, and complete elimination, thus keeping in active circulation a pure and rich nutritive fluid. In no other way can we control and strengthen cell-life than by placing it in the best environment and obtaining the substitution of new protoplasm for that which is old and diseased. This is the basis of cure, the grand purpose which gives unity and system to the management.

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THE COMPLICATIONS AND SEQUELÆ OF TUBERCULOUS LESIONS INVOLVING THE JOINTS, WITH A DISCUSSION ON THE MOST EFFICIENT MANAGEMENT.[1]

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It is indeed difficult for one whose time is so fully occupied with the practice of a specialty, limited as is the one I represent, to prepare a paper which will afford scope for discussion in a Society whose name would indicate a membership of general practitioners. Fortunately, however, the Society has in its membership a small number only to whom the term "General Practitioner" is applicable. It was the aim of the founders of the organization to bring specialties together and have for discussion subjects in which all could participate. Armed with this knowledge, I do not suffer from a keen sense of embarrassment this evening when I present for your consideration

The Complications and Sequelæ of Tuberculous Lesions Involving the Joints.—Tuberculosis, we all know, has a medical as well as a surgical side. The bacillus against which such a ferocious war has been raised, is just as much at home in the epiphyses of bone as in the apex of the lung. When one speaks of chronic joint disease in children he naturally associates with this affection a tubercular pathology. When I speak of joint diseases I mean to convey the impression that the lesions are primarily tubercular. To be more specific—Pott's disease of the spine is a tubercular ostitis of the bodies of the vertebræ; hip joint disease is a tubercular ostitis of the upper epiphysis of the femur and the acetabulum; white swelling of the knee is a tubercular ostitis of the lower end of the femur and upper end of the tibia, and so on through the other joints.

I am well aware that a complication is often considered a part of the disease, and my only excuse for speaking of certain phases of the disease as complications is my desire to bring before you in a tangible way these very phases which often prove so embarrassing. The complications are few and may be named as follows: Tubercular meningitis, abscess, amyloid degeneration, compression myelitis. Among the sequelæ we have deformity, shortening of the limb, pulmonary diseases.

The two lists just given comprehend pretty much all the usual complications and sequelæ with which we have to deal. There are sometimes neuroses affecting the circulation, giving rise to purpura hæmorrhagica, sometimes a cystitis, permanent paralysis, etc. Yet these can scarcely be regarded as having any connection with joint disease.

Returning, now, to complications, I shall have very little to say about

Tubercular Meningitis.—This dread malady, in my experience, appears either in the first or second stage of joint disease and without exciting cause. I have seen it develop in mild cases where there are very little excitement; have seen it develop likewise at the close of an exacerbation, and sometimes within two or three weeks after an operation. I do not know that it occurs more frequently in this class of diseases than in any other class, or indeed in children who have no disease, but I have come to look upon certain prodromal signs with a great deal of apprehension. Of 1,371 cases in the hospital from January 1, 1881, to January 1, 1891, 22, or about one and one-half per cent., developed meningitis. The greater number in any one year was in 1888–89, where there were 139 cases, with seven developing meningitis, giving a mortality of a little less than five and one-half per cent. There were two years in which no deaths occurred from this complication. On general principles one would suppose that this complication might be averted by allaying excitement and by removing as early as possible the focus of disease from the end of the bone. I know of nothing practical to offer and there is nothing to add in the way of treatment.

Abscess.—Roughly speaking, about fifty per cent. of all cases develop abscess at some time during the progress of the disease. Statistics show that joints which get early protection and prolonged protection develop abscess much less frequently. Still, the question as to what is the correct and proper treatment is a relative one. It is generally agreed among surgeons that protection and immobilization should be employed in the management of a given case, yet the details vary and it is a rare thing for a child with joint disease to get uninterrupted and continuous immobilization. For instance, one surgeon employs a portable splint by day and weight and pulley by night; the details of the management are left with the family. Another surgeon employs a splint night and day, but allows the family to change straps and buckles. In this way the principle is not thoroughly carried out. Again, another surgeon uses weight and pulley in bed, with or without fixation of the pelvis. So that we are not in a position at present to determine whether the abscess depends upon the treatment employed or whether it depends upon the extent of the disease at the outset. It is my conviction that, as we progress in therapeutics and especially in early diagnosis, abscesses will be very infrequent.

Suppose they do come, then how can they be best managed? For many years I believed it was better to leave the abscess alone than to attempt to remove it by operative procedure. My plan to-day is this: aspirate as soon as the sac can be made out; after removing the contents inject an emulsion of iodoform and sterilized oil, apply compresses and keep the child quiet for twenty-four hours; repeat this procedure in a week or a fortnight, according to circumstances, the chief circumstance being the refilling of the sac. If the abscess is large when it comes under observation, and is in the way of efficient mechanical treatment, I make a free incision, do

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my best to obliterate the sac, wash thoroughly with sublimate, flush with peroxide of hydrogen, dry with iodoformized gauze, suture the long incision made, and drain at the lowest portion. At the hospital last year, in the abscesses aspirated without the injection of oil and iodoform, fifty per cent. disappeared after one or more aspirations. However unsurgical aspiration may appear, I think it can easily be demonstrated that even large abscesses under this treatment grow smaller, and when they do open spontaneously or must be opened by incision, pursue a much more benign course. So that I am prepared to say that aspiration is not a useless procedure, and that in the hands of a practitioner it is much safer than free incision.

After all, an abscess is not so dreadful a complication or serious a phase of joint disease. I have long been convinced, and this conviction has been reached by carefully observed statistics, that in ostitis of the ankle an abscess is good for the ankle. Patients get well with better ankles, much more useful every way, where an abscess occurs, and we have the satisfaction of knowing that the foci of disease have been relieved by this discharge.

While closing this part of my paper, a lady calls to get my advice about an old patient in the hospital many years ago. She tells me that her daughter, now nineteen years of age, was a patient ten years ago in the hospital for eighteen months, suffered from what we called caries of the ankle, was in a wheeled chair the better part of that time, had several abscesses, that these took a natural course, that the child was subjected to expectant treatment, and that for at least eight years she has had no trouble with the ankle, it is marked with cicatrices, that the functions, from all I can learn, are perfect. She tells me that no one can detect any limp, that she never complains of the joint, that she is able to dance and use the limb all day. I questioned her very closely about this final result, and I am satisfied that what she states is true, because I have seen many cases similar to this.

In striking contrast, let me narrate one in hospital twenty years ago, in the ward for at least two years, under treatment for caries of the ankle, where suppuration never did occur. Ten years after her discharge I found the girl living at service in the family of a medical man. While she was in good health and was able to hold her place, yet the doctor told me that very often she made a misstep in walking, turned her ankle, and was laid up for two or three days with pain and discomfort; that she was ever conscious of having an ankle. I examined the patient and found a degree of tenderness remaining, although no infiltration; found the functions not quite as good as in the other ankle, but a sensitive joint. I have found just such cases among my knee patients and also among the hip patients. While I do not wish to say that it is well to court abscesses and to allow the disease to progress so that an abscess will form, I do mean to say that if an abscess should come it is perhaps better for the patient, provided we can conduct the case to a successful issue.

Amyloid Degeneration.—A complication that appears in the later stages of the disease, after prolonged suppuration, is familiar to us all under the name of amyloid degeneration. Fortunately I do not see so many of these cases as I did in former years, because I am all the time making strenuous efforts to cut short the suppurative process. Sinuses are curetted frequently, abscesses are cleansed, tuberculous foci and bone are removed, the best hygiene is sought for the patients, hospital life is sometimes terminated, and in this way I am sure that the drain on the system is much less.

Many years ago, in an extensive analysis of cases of joint disease, I found that prolonged suppuration must occur in children with tuberculous family histories to produce amyloid degeneration.

When one is satisfied that amyloid changes have already supervened, radical measures naturally are suggested. If the patient suffers from a tuberculous affection of the knee or the ankle, amputation is preferable to excision. The literature of the subject shows that a certain number of cases are cured after amputation. The cases recorded are well reported, and the character of the surgeon so reporting is sufficient to substantiate the claim. In a few rare instances the process has been cut short and resolution has taken place after excision. In still a rarer number of instances resolution has taken place where no operative interference has been attempted. The weight of evidence, however, is in favor of amputation. In looking over the statistics of excision of the hip, a few where amyloid degeneration existed and where the excision failed to give any relief have obtained perfect relief and the patient has been cured by a subsequent amputation.

Compression Myelitis with Paraplegia.—The next and last complication which I shall bring up for discussion is compression myelitis with paraplegia. I trust I shall not be looked upon as straining a point when I class Potts' disease of the spine as a joint disease. Compression myelitis, of course, does not occur as a result of disease in any other joints than those of the spinal column. The extent and the degree of the paralysis is not determined by the amount of angular deformity. It has long since been demonstrated that a most obstinate compression myelitis may occur in a case where there is a minimum amount of osseous deformity. I have, at present, two cases in the hospital, under treatment, where the deformity is scarcely appreciable. The bone lesion is in the cervico dorsal region. Both parents have suffered, and one is now suffering from brachial paraplegia as well as paraplegia in general. One has recovered from the brachial paraplegia, while the other has been relieved in a measure, yet to the paralysis is added an occasional painful spasm of the muscles, controlled only by a cautery to the back.

The views expressed as to pathology differ a little, yet the differences are so slight that it is only necessary to state that, in a general way, most of the paralysis is due to an inflammatory thickening of the pachymeningeal tissue, in fact, a pachymeningitis, with secondary involvement of the meninges and cord itself. In many instances a transverse myelitis occurs with secondary changes in the column. There are undoubtedly a certain number of cases where no myelitis does occur, where it would seem that the disturbance is purely reflex, where the circulation is at fault, and when relief is afforded to the circulation prompt relief takes place in the limbs themselves.

The ease with which the spinal canal can be opened by operation has prompted many surgeons to relieve this compressed cord by means of the forceps and scissors. There are on record a few remarkable instances of relief, yet it is my impression that the majority of cases have not improved, or at least have derived no permanent benefit, from the operation. I make this statement rather guardedly, because the final results have not been furnished. The mechanical treatment has been so satisfactory in my hands that I have not resorted to operation. I take hold of a case, for instance, with a great deal of confidence, and the plan of treatment is as follows: Extension and counter extension in bed by means of weight and pulley or elastic straps; the patient is placed on a hardish bed, on rubber sheeting, which is kept powdered with boracic acid or something similar; an occipital and frontal strap is secured to the head so that great force can be employed, if need be, with straps, and fastened to the head of the bed by means of some elastic tubing; this serves as counter-extension; about the pelvis and loin a canvas lacing is secured, to the sides of which, just above the trochanters major, a piece of strong webbing with buckles is attached; a long piece of webbing is attached to each buckle and passes down to the foot of the bed, over a pulley, and at the end of the webbing a weight is attached. The traction is regulated by the sensitiveness of the skin over the pelvis. Potassium iodide is administered in in-

creasing doses, beginning, say, at five or ten grains in vichy, three times a day after meals, and pushed at the rate of five grains a day increase up to eighty or a hundred grains three times a day. If the case prove very obstinate and the patient suffers from muscular spasm, that is, if the reflexes are very much exaggerated, I employ, once or twice a week, the small tip of the Paquelin cautery brushed rapidly and lightly over the bosse on each side of the spinous processes. In cases where the paralysis is complete it is not an uncommon thing to see improvement begin within three or four weeks, and an encouraging amount of relief in two or three months. As soon as convalescence is established, that is, as soon as the patient can move the limbs about pretty freely, although requiring some effort, can flex and extend the toes, although feebly, I employ a plaster-of-Paris jacket with head-spring, get the patient out of bed into a wheeled chair, continue the iodide. Within two or three weeks the child can walk about, and I feel pretty sure that a cure is not far distant. I find it necessary to continue a snug-fitting spinal support for a year or two after the patient is relieved of the paralysis. I never employ electricity or massage or anything that tends to bring on muscular spasm. I believe all excitation should be avoided. After convalescence has been fully established, and where I find that secondary changes have taken place in the cord, producing atrophy or loss of power of individual groups of muscles, then massage or faradism, and even supporting apparatus, may be employed.

The Sequelæ.—Chief among the results of joint diseases is deformity. The kind of deformity depends upon the joint or joints involved. Take, for instance, the spinal column. We have a gibbus or kyphosis, which is very often the first sign that the practitioner's attention is called to observe. The average medical man is so unfamiliar with the symptoms and aches and pains that precede the stage of deformity that he seldom thinks of making an examination of the column. This very day a medical man, thirty-four years of age, was referred to me by Dr. Janeway, who had been consulted on account of a distress in breathing, and, failing to find any pulmonary lesion, looked the case over in his thorough way and found a kyphosis or bosse in the middle and lower region. This physician has suffered for four years with pain referable to his spine; has continued in the practice of his profession, has sought advice frequently from his confrères, but it remained for Dr. Janeway to discover this prominence in the spinal column. A year ago he had a compression myelitis and had incomplete paraplegia for many months. Spontaneous resolution took place, and now he has just begun to show signs again of a recurring compression myelitis.

Where the disease invades the upper dorsal and cervical region, distortions of the head are apt to occur, a peculiar deformity of the shoulders, and one recognizes deformity earlier than where the disease invades a different part of the column. Where the lower dorsal and lumbar regions are involved the gibbosity is by no means the least distressing deformity that may occur. The chest-walls themselves are involved, the thoracic and abdominal cavities are altered in shape, the viscera are compressed, a lateral deviation or scoliosis often results, painful neuralgias occur as a result, the child is stunted in growth, and, indeed, there seems to be no end to the catalogue of deformities that may result from an unprotected spinal column the subject of disease.

Where the hip is involved one of the most common deformities we have to deal with is a partial ankylosis, with flexion and adduction of the thigh. This causes a lordosis of the spinal column and an extremely awkward gait, and should be corrected before the age of puberty. The methods of correction are simple enough, only they require persistence in attention and detail. Even before the case is cured and before we can begin to speak of sequelæ, prevention of deformity should be considered and prompt measures resorted to. It is extremely rare for bony ankylosis to take place. Under ether, therefore, adhesions can be overcome by manual force very frequently. I do not mean brisement force in any sense of the term. If, for instance, a case presents with little or no shortening, but with flexion and adduction, accompanied by painful spasm, and without any abscess, or even if abscess is present, it is very good practice, in my judgment, to anæsthetize the patient, slowly pull the limb into better position, doing the minimum amount of violence to the hip, discontinue the anæsthetic, put the hip up in plaster-of-Paris, securing perfect immobilization to the joint. The plaster should extend from the foot to the free ribs. This procedure is seldom followed by any acute symptoms, the little sprain produced is soon cured by the rest, and at the end of a fortnight a splint can be applied which will protect the joint against further trauma. I have no hesitation in recommending this method of correcting deformity, I know it can be abused, but one is less apt to abuse a hip by this process than by the use of ill-fitting apparatus. We are all familiar with the inclined plane, weight and pulley, and know just what can be accomplished by this process, yet circumstances often interfere with the proper use of the weight and pulley, the time element comes in, and we must get the limb in good position for a portable apparatus. Where the deformity has lasted for many years and where the signs of active disease have long since subsided, then the deformity can be corrected under ether by means of the tenotome or open incision for the section of muscles and bands of fascia. When the deformity cannot be corrected by section of muscles and fascia and by the employment of manual force, then an osteotomy below the trochanter minor enables one to fracture the limb and over-correct the deformity. The treatment of this fracture will depend somewhat upon the surgeon who does the operation. I invariably employ plaster of Paris, reinforced by bits of steel on the side of the limb and in front. I am well aware that many objections are offered to plaster, but I am convinced that the objections are offered by men who are not thoroughly conversant with the use of plaster of Paris. After the plaster is removed, I find it necessary, especially where I have found it necessary to shorten the treatment, to employ the inclined plane with weight and pulley for one or two weeks afterward until all deformity is corrected. Then, as a matter of precaution, I employ the long hip-splint for one or two months, sometimes substituting for this the jointed hip splint, which is worn for two or three months longer. I know nothing that has succeeded so well in my hands as this osteotomy below the trochanter minor.

Under the deformities that occur at the knee as the result of disease, we have flexion, subluxation, luxation, and genu valgum. Of course it is desirable to prevent deformity here as well as in other joints. This can be done best by making an early diagnosis and by a thorough knowledge of the clinical history of the disease. Given these two factors, any form of splint that one is familiar with can be employed as a prevention of deformity. The correction is often difficult, however. I have on so many occasions presented what we term at the hospital the Billroth splint that I feel that I shall be trespassing on your time if I go into details on this occasion. I merely wish to say that with poor flexion and a moderate amount of subluxation I have no hesitation in assuring the parent or the patient that the deformity can be corrected perfectly without operative interference. The plan is to incorporate tin splints, jointed at the knee, into a plaster-of-Paris bandage, building in the popliteal space quite heavily with plaster, leaving an elongated opening over the ligamentum patella. After the plaster is set make a section through the plaster in the popliteal space, then pull the limb into better position, inserting from day to day wedges of cork, increasing in thickness. To guard against the recurrence of deformity is a very essential feature in the management of the case. I know nothing better than immobilization of the limb in plaster-of-Paris for some

months with a walking-splint which protects the joint against trauma. I employ the Thomas knee splint for this purpose, and I take pleasure in showing you the apparatus this evening.

The pulmonary lesions that are regarded as a sequel to the joint-disease of childhood are so familiar to the profession that I refrain from comment. It is well known that one of the dangers that threaten a patient who has been the victim of bone disease in childhood is a pulmonary tuberculosis about puberty or shortly thereafter. I need only urge the importance of good hygiene and a kind of life that one would seek if the danger were known.

I beg forgiveness for a paper so desultory, and plead as an excuse my desire to bring out a discussion that will be worthy of the Practitioners' Society of New York.

Progress of Medical Science.

Ether and Chloroform.—Dr. Kocher has been led by his researches upon the comparative advantages of ether and chloroform to formulate the following conclusions: 1. Before proceeding to general anæsthesia, it is indispensable to examine the patient thoroughly and submit him to preliminary treatment. 2. It is useful, and even necessary in many patients, to stimulate the heart's activity by the administration of alcohol or other stimulant (tea) before proceeding to anæsthesia. 3. The patient should be put to sleep only when in the horizontal position. 4. When the subject has not been properly prepared beforehand, chloroform should never be employed. 5. When the subject is affected with heart-disease, or with any functional cardiac affection with accompanying implication on the part of the respiratory organs, ether should be preferred to chloroform. 6. The opposite course is necessary when an affection of the respiratory tract is present with hyperæmia of the tracheo bronchial mucus. 7. When the anæsthetic sleep is to be prolonged for a relatively long period, chloroform should be used first and then ether administered in small quantities to keep up the anæsthesia. 8. Chloroform should never be given mixed with a large proportion of air; during the whole duration of anæsthesia fresh air should, however, be admitted freely to the respiratory passages of the subject. 9. For long operations, or for one reason or another, the use of ether seems to be contra-indicated, a preliminary injection of morphine or morphine and atropine should be made, so as to restrict as much as possible the quantity of chloroform necessary to secure anæsthesia of sufficiently long duration.—*Gazette Médicale de Paris*, October 17, 1891.

Erythema Multiforme in Typhoid.—Dr. Laufer has observed a generalized eruption of erythema multiforme in a girl of twenty-three, suffering with typhoid. A few days before death small dermic abscesses appeared about the shoulders and ankles. The autopsy revealed pneumonia as well as typhoid. In the kidneys were numerous yellow foci which consisted of pus-cells, typhoid bacilli, and streptococci. The latter were also present in the skin abscesses, and the author believes it due to their wandering to the surface that the erythema occurred.—*Deutsche Med. Zeitung*, No. 5, 1892.

A New Tropho-neurotic Disease.—Drs. Hallopeau and Larat have reported to the *Assoc. française pour l'Avanc. des Sciences*, a case in which there existed, in different portions of the body, plaques of irregular outline over which the skin was discolored, insensible to simple contact, and not very sensitive to prickings. The latter either occasioned no flow of blood, or else the escape of a little, almost black, blood of asphyxia. The hairs fell out over the patches and when reproduced grew in white. The patches were surrounded by pigmented areas, and thus presented the objective characteristics of vitiligo. They either disappeared spontaneously, or under the influence of cutaneous irritation. In the different varieties of dyschromias of nervous origin which have hitherto been described, the concomitant phenomena have consisted in changes of sensitiveness, changes in vascular supply, and changes in secretion. Now must be added, in order to include this case, changes in the nutrition of the hairy growth. In a second case there was coincident cutaneous hyperplasia, showing itself in the form of lichenoid papules surrounding the whitened patches. The grouping of the papules about the achromatic areas separates this from all previously described dermatoses, and at the same time shows that the nutrition-changes which have modified the pigmentation have also caused the hyperplasia manifested by a lichenoid eruption. The conclusions reached by a study of these cases are: 1. There exists a dermatosis characterized by achromatic plaques surrounded by papillary zones, and exaggerated pigmentation. 2. This dermatosis is probably a cutaneous manifestation of hysteria. 3. The lichenoid papules may be of tropho-neurotic origin. 4. They are not of necessity related to pruritus. 5. Cutaneous electrization in form of faradic baths seems to be indicated in such cases.—*La Tribune Médicale*, October 15, 1891.

Cure of Recurrent Erysipelas.—Dr. Lavrand relates the case of a woman who had repeated attacks of an erysipelas-like erythema, beginning at the sides of the nose, sometimes as often as twice in the month, but usually not proving severe. She suffered from chronic pharyngeal catarrh as well as hypertrophy of the middle and lower turbinated bones. Repeated medicinal as well as galvano-caustic treatment of the nose, which was looked upon as the port of entry of the infection, was without result, and the attacks continued. Cure was effected, however, by treatment of the naso-pharynx, and especially by the removal of adenoid vegetations found there, and it was thought that the tissues made vulnerable in this location offered the real entrance for the erysipelas cocci.—*Deutsche Med. Zeitung*, No. 5, 1892.

Exalgine.—Dr. Désiré relates some very interesting cases observed at the Lariboisière Hospital in Paris. In every case the drug was given in four-grain dose at two and at four P.M. In some instances this was progressively increased up to twelve grains or more. Thirty-two cases suffering from nearly every variety of pain were treated, and thirty were either greatly benefited or permanently cured. Vertigo was complained of in a few cases, but the dose was not decreased, and in one the vertigo disappeared while the dose was being increased. In some hundreds of cases of throat pains, dysphagia consecutive to tuberculosis, etc., great amelioration for long intervals was secured. It has also been found of great value in traumatic pains.—*Journal of Nervous and Mental Diseases*, January, 1892.

Abortive Treatment of Gonorrhœa.—Dr. Diday gives his views on the abortive treatment of gonorrhœa in the *Gaz. des Hôpitaux*, October 13, 1891. He believes, 1. That in the early stage every gonorrhœa can be aborted. 2. That the abortive treatment is neither locally nor constitutionally dangerous. If the meatus has already become œdematous it is probably too late, and surely so when the discharge has become well established. There are two methods: 1. A strong solution may be introduced for a short period. 2. A weak solution may be allowed to remain a longer time in the urethra. A five per cent. solution of nitrate of silver should be allowed to remain, according to the amount of pain, from forty seconds to a minute and a half. After the fluid has been injected the finger is to be applied to the meatus, but the orifice not squeezed, as this keeps the fluid out of the fossa navicularis. Pressure can be made along the canal to force the fluid more deeply in. After about two hours a free discharge takes place, and only after four days can the result be certain. If a discharge persist after this it may still be due to the burning, in which case it will cease of itself within a few days

more. The abortive method is regarded as worthy of trial in view of the serious complications at times following a gonorrhœa.

Treatment of Hydrocele.—According to the *Indian Medical Gazette*, no treatment succeeds better in ordinary cases of hydrocele than the injection of tincture of iodine. It does, however, cause pain and may produce pyrexia, and iodism has resulted from absorption. Dr. Milliken has treated 54 cases by injection of strong carbolic acid: 9 were not subsequently seen; 4 remained under observation, and 36 were cured; 4 required two injections, and 5 had to be injected three times. There was no sloughing, and no patient was more than a day away from business. Five to twenty-five minims of liquefied crystals of carbolic acid are injected through the cannula which evacuated the fluid. After removing the cannula the sac is lightly kneaded to distribute the acid over its inner surface.—*Bristol Medico-chirurgical Journal*, December, 1891.

Sublimate Poisoning.—Dr. Nesemann relates an instance of constitutional poisoning after washing out the vagina with a 1 to 4,000 corrosive chloride solution for ten days. An eruption suddenly showed itself, first on the mons veneris, then over the hips and extremities, consisting of separate dark-bluish-red ecchymotic spots and petechiæ; at the same time there was increased flow of saliva and gingivitis, headache, weakness, loss of power in the legs, lack of appetite, etc., all in a woman previously strong and well. As soon as the sublimate injections were stopped and a permanganate wash substituted, the symptoms all disappeared, including the ecchymoses. The author thinks an idiosyncrasy must have existed in this instance, for allowing that fifty cubic centimetres remained in the vagina, only about one and one-quarter centigramme could have been absorbed daily.—*Deutsche Medizinische Zeitschrift*, No. 1, 1892.

Fibro-sarcomatosis. — Dr. Langenbuch recently presented at the Freie Verein der Chir., in Berlin, a patient who had had several months before about eighty fibro-sarcomata scattered over the skin's surface. An energetic treatment with iodides and arsenic had already resulted in a decrease in the tumors, when an erysipelas suddenly developed and spread over the entire surface. The consequence of this was that, within the space of five days all the sarcomata had disappeared and the skin had become normal. After the space of a year a slight recurrence had taken place, and a tumor the size of a plum was to be seen in the region of the neck.

Monstrous Hypertrophy of the Prostate.—Dr. Adler presented at the Freie Verein der Chir., in Berlin, the following history: A patient of sixty-six years had for fifteen years suffered from difficulty in urination, but had used the catheter without trouble until recently, when severe bleeding was occasioned by its introduction. Suprapubic and, subsequently, perineal cystotomy were done, but no permanent relief was afforded. The blood oozed from the prostate as from a sponge. The Paquelin cautery was employed, but death soon took place. The prostate measured 6½ centimetres wide and 20 centimetres long.

Intestinal Antisepsis.—Dr. Dujardin-Beaumetz recommends the following formula as a satisfactory intestinal antiseptic:

Salol,
Salicylate of bismuth,
Bicarbonate of sodium, ää 150 grains.

To be divided into thirty powders in capsules. One capsule to be taken before breakfast and before dinner.

—*Therapeutic Gazette.*

Intestinal Perforation in Typhoid.—Dr. Fitz (*Boston Medical and Surgical Journal*, Nos. 14, 15, 1891), writing upon the prognosis and treatment of intestinal perforation in typhoid fever, says: Most cases of recovery from symptoms of perforation of the bowels in typhoid fever are those in which an attack of appendicitis is closest simulated, while the fatal cases are, in the great majority of instances, those in which other parts of the bowel than the appendix are the seat of the perforation. The suggestion of laparotomy was first made by Leyden in 1884. The first operation for the relief of the symptoms caused by a perforating typhoid ulcer of the intestine, where there is no question as to the nature and seat of the lesion, was performed in 1887, by Lücke. Successful results of operation for the cure of circumscribed peritonitis in typhoid are comparatively few. Out of twenty-seven collected cases of peritonitis in typhoid, whatever may have been the cause of the former, though often attributed to intestinal perforation, three recovered after operation, seventeen after resolution, and nine after the spontaneous discharge of the pus. The appropriate treatment thus indicated would be delay until a probably encapsulated exudation proved unduly slow in absorption. An immediate or early laparotomy for the relief of the peritonitis seems advisable only when the patient's condition is exceptionally good. Should the signs of the exudation persist a week or more, and the general condition of the patient permit an incision, surgical treatment would then be strongly advisable. The patient may live for weeks after perforation has taken place. In brief, immediate laparotomy for the relief of suspected intestinal perforation in typhoid fever is only to be advised in the milder cases of this disease. In all others, evidence of a circumscribed peritonitis should be awaited, and may be expected in the course of a few days. Surgical relief to this condition should then be urged as sooh as the strength of the patient will warrant.

Puncture in Chronic Hydrocephalus.—Dr. Karnitzky (*Arch. für Ped.*, August and October, 1891) reports five cases of chronic hydrocephalus treated by puncture. In none of the cases did any complication follow the operation. In two cases the child died; in one the head was tapped twice, in the other five times; in the latter death was due to diarrhœa, and considerable improvement followed the first tapping. In another case, tapped five times, the child was growing rapidly worse when last seen; one case was only under observation five days; in the fifth case, a female child eleven months old, with a very large head, with extremely thin bones, six punctures were made during the course of a month; the circumference of the head was reduced from seventy to sixty-two centimetres, and when at the end of this time the child ceased to be brought for treatment, it appeared to be doing well.—*British Medical Journal.*

To Dissolve Cocaine.—Squibb recommends the use of a half of one per cent. solution of boric acid to dissolve cocaine, this amount being needed to prevent decomposition.

The German Surgical Society.—The twenty-first Congress of the German Surgical Society will be held at Berlin in Whitsun week, from June 8th to 11th, under the presidency of Professor von Bardeleben. It is hoped that the Langenbeckhaus, the formal opening of which has been fixed for June 1st, will be ready for the accommodation of the Congress. The first general meeting will be devoted to a discussion on "The Surgical Significance of the New Firearms," to be introduced by Professor P. Bruns. Another specially interesting feature of the Congress will be a debate on "Anæsthetics," to be introduced by the presentation by Professor Gurlt of the report of a collective investigation on the subject.

Dr. James Ross, of Manchester, England, died recently of cancer of the stomach. He was fifty-five years of age, and was born in Scotland. Dr. Ross was best known for his treatise on "Nervous Diseases," a work which showed intellectual qualities of the highest kind. He also made important contributions to the subjects of aphasia and neuritis.

Clinical Department.

A MIXED EXANTHEM PROBABLY SCARLATINOUS.

By L. HARRISON METTLER, M.D.,

CHICAGO, ILL.

The mixed character of its cutaneous eruption obscured somewhat the diagnosis of the following case, though most of its symptoms seemed to indicate scarlatina. It is interesting, at all events, on account of its being an unusual form of the exanthemata.

E. J. H——, a young man, twenty-five years of age, came to my office, on the morning of February 20th, with a fever of 101.5° F., a highly inflamed throat, and a marked swelling of the glands just back of the right sterno-mastoid muscle. While attempting to extinguish a fire a few days earlier, he was exposed to cold and dampness. This he treated with the usual home remedies, and the next day considered himself quite well. His average health is excellent, and his active, buoyant temperament does not readily yield to an attack of sickness.

The day before he called to see me he was taken, about 3 P.M., while engaged at business, with a severe chill, violent headache, nausea and vomiting, and general aching throughout the whole body. His mother says that when he came home in the evening he had an unusually high fever, his skin was hot and dry, and he was extremely restless. He complained of the parched condition of his mouth, the pain upon swallowing, and the soreness of the swelling in the right submaxillary region. A hot bath and quinine and whiskey were taken, but he continued restless and wakeful during the night.

It was about nine o'clock the next morning when he first came under my observation. I found the temperature then to be 101.5°F., the pulse 100, the tonsils and fauces congested and somewhat swollen, and the glands at the right angle of the jaw greatly enlarged and tender. The swelling of these glands extended somewhat down the side of the neck, along the posterior border of the sterno-mastoid muscle. Swallowing was extremely difficult, but pressure externally over the tonsils did not elicit much pain. The tongue was coated with quite a thick, brownish-yellow fur, extending in two broad parallel lines, thus leaving the middle, edges, and tip clean and red. The headache was the most intolerable symptom complained of. There was some nausea and general aching of the whole body. At this time the patient was entirely free from cough or other signs of broncho-nasal catarrh. The patient being subject to occasional attacks of quinsy, I diagnosed the present trouble as tonsillitis, and placed him on treatment for the same. This consisted of rest in bed, hot mustard foot-bath, ice to the throat, externally and internally, a chlorate-of-potash gargle, two grains of quinine four times a day, and two drops of belladonna tincture, with one drop of aconite-root tincture every half hour, hour, or two hours, according to the condition of the pulse and temperature. At night the swollen glands were rubbed with camphorated oil and the throat freely gargled with hot milk.

About 1 A.M. the first night after I had seen the patient I was hurriedly sent for on account of the sudden appearance of a bright red rash over the entire surface of the body. The young man was resting easily so far as his own sensations were concerned. The excessive diarrhœa, amounting to ten or twelve watery stools in twelve hours, had stopped; the headache was gone; swallowing was much less painful; there was a decided diminution in the swelling of the neck; the restlessness was followed by quiet, and the general aching of the body had disappeared. The temperature registered 101° F., and the pulse numbered 96, but both the temperature and the pulse had been lower since he commenced taking the belladonna and aconite drops every two hours. In some respects the rash had much the appearance of scarlet fever, for it was uniformly distributed over the entire body; there were no intervals of healthy-looking skin, and the color disappeared under pressure of the finger only to quickly reappear when the pressure was removed. The coloration was more pronounced in some of the dependent portions of the body, such as the calves of the legs, the back of the thighs, and small of the back. It was particularly noticeable about the face and ears. It itched so that the patient could scarcely refrain from scratching himself. On the other hand, this rash had much the likeness of measles. It was rough and elevated with well-marked papulæ, and in certain localities, such as the chest, the back, the legs, and the feet, the papulæ arranged themselves into the well-known crescentic and other bizarre-shaped clusters common to measles. The papulæ were small, exceedingly numerous, and close together. They were redder than the basement skin on which they rested. Indeed, so typical of measles was the appearance of the skin that the mother of the young man, an intelligent woman and experienced in the care of measles, declared positively that she believed the case was one of that disease. The patient had already had a severe attack of measles in his early childhood, accompanied by the usual symptoms of broncho-nasal catarrh. Latterly he has suffered from frequent attacks of urticaria. I examined a specimen of his urine passed in the twenty-four hours. It was dark-yellow in color, feebly acid, and exhibited a specific gravity of 1.028, and 65.24 grammes of solids in 1,000 c.c. There was not a trace of albumin, though I employed five or six different tests for its detection. The urine was simply a febrile urine.

A day or two later there was some coryza, and on the second and third evenings the patient says he bled freely from the nose, so much so that once he was on the point of sending for me, but did not, as the bleeding stopped of its own accord. There was also later on a very slight cough without any huskiness of the voice. The cough, in fact, was so slight that the patient himself insisted he had none. Constipation succeeded the early diarrhœa and continued to be troublesome far into convalescence. On February 23d the throat trouble had entirely vanished, the rash persisted, the temperature fluctuated about 100.8° F., and the pulse varied from 76 to 86. On February 25th the patient got up, dressed, and sat many hours in an arm-chair. There was no more fever, sore throat, or other symptom, except a feeling of extreme weakness. The rash, however, still remained, less red in color, more distinctly papular, rough to the touch, itchy, and quite free from any evidence of beginning desquamation. It had none of the appearances of German measles. The tongue, though somewhat clearer, was still badly coated, cracked along the edges, and had much the appearance of the well-known "strawberry tongue" of scarlatina. The tonsils and pharynx exhibited a few insignificant patches of exudate, but were entirely free from the prodromic punctations of measles.

The patient called to see me at my office February 26th, troubled only with the excessive weakness and a peculiar rheumatic soreness about the left knee, which he attributed to the forced rest in bed. The rash had now almost entirely disappeared without desquamation. I placed the patient on a tonic treatment and urged him to remain indoors for a few days.

The prevailing epidemic is doubtless modifying the typical course of many of the ordinary diseases. Whether it had any influence in this case I am unable to say; but the marked character of some of the nervous symptoms, such as the headache and restlessness, as well as the extreme exhaustion following so short a period of illness, would seem to indicate its influence. In some of its features the case was one of scarlet fever, in others, measles. While regarding it as scarlatinous, I must admit that I am loath to consider it, in view of its resemblance in some respects to measles, simply as a variety of scarlet fever.

4228 Greenwood Avenue.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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SOME IMPRESSIONS OF AMERICAN SURGERY.

WE have frequently quoted the views of American physicians who have visited hospitals and clinics in Europe. It may be of interest to hear some opinions concerning our own institutions as expressed by a candid Scotch observer, Mr. Rutherford Morison. In an article entitled "Surgical Impressions of a Flying Visit to Some American Hospitals,"[1] the gentleman in question gives the result of his observations during an eighteen days' visit industriously spent in New York, Boston, Baltimore, Cincinnati, and Chicago. The first hospital described is the Roosevelt. Here he was impressed by the cramped space of the hospital proper and the magnificent possibilities of the new operating pavilion. The Vienna plan of dissecting out all buboes strikes his attention, and he thinks that in America the bubo must be a much more serious disease than in Great Britain. The practice of always using a needle-holder in inserting sutures also calls for some comment. Mr. Morison was "surprised to learn that all strictures are dealt with by internal urethrotomy. Those in the penile portion are cut only; those behind are cut, and in addition the bladder is drained through the perinæum.

"The bougies used in the after-treatment are," he says, "terrible looking weapons, and 'bougie day' did not appear to be anticipated by the patients with feelings of unmixed satisfaction. Surgical principles are not elastic enough to allow of such a radical difference of opinion and practice as I saw there and see with us. If they are right we are wrong."

The operative treatment for malignant growths he found to be carried out in a much more radical way than in England, "*e.g.*, in an ordinary case of scirrhus of the mamma it is usual," he says, "to remove a large area of skin covering and surrounding the growth, to take away the pectoralis major, divide the pectoralis minor, and dissect out from the axilla everything except vessels and nerves. The skin gap is filled up by a Thiersch's graft—an excellent method, not sufficiently used in England."

In cancer of the tongue an incision is made through the centre of the lower lip, down through the middle line of the chin and neck to the hyoid bone. A second incision crosses this, running along the lower edge of the body of the jaw from one facial artery to the opposite. The flaps so marked out under the chin are reflected, the glands dissected out, and the lingual arteries tied. The lower jaw is now sawn through in the middle line, and the floor of the mouth and tongue removed.

At Bellevue Mr. Morison attended a public clinic in which a laparotomy for pyosalpinx was performed. The observer was struck with the position taken by the operator, viz., standing between the legs of the patient. He says: "I have never seen an operation more skilfully performed; but the advantages of the position adopted would have to be very clear before a British surgeon could be persuaded to adopt it. It is not an elegant one."

At the New York Hospital an operation for appendicitis was attended. During his short stay in America Mr. Morison saw five cases of appendicitis, and he concludes that it is more common in America than in Great Britain.

Favorable criticism is made of the Johns Hopkins Hospital, and the writer is impressed with the advantages of the circular ward. He states incidentally that the private wards of Johns Hopkins yield an annual income of $40,000.

At Cincinnati, the American practice of putting up fractured limbs at once in plaster-of-Paris bandage is noted as a novelty. He quotes the very sensible observation of Dr. Conor to the effect that there "was now a rage on the radical cure of hernia by different methods, but that he thought possibly ligature of the neck of the sac and its removal were sufficient and as satisfactory in result as more elaborate proceedings."

At Boston Mr. Morison found that everything, "including hospital, staff, nurses and all else is decidedly English. It seemed none the worse for that."

We are told that excision of the joints is something of a specialty in Boston, and Mr. Morison evidently learned several things regarding these operations.

The writer's general conclusions are that:

"American much more resembles German than English surgery. The Germans have an indescribable way of taking possession of an anæsthetized patient, giving an impression that he is entirely their own, and that they mean to do just what they like with him.

"German instruments are large, artery forceps like tongs, scissors like sheep shears, retractors like garden rakes.

"The German surgeon is seldom in doubt, and has an excellent embryological, bacteriological, and pathological explanation of all his cases and results. If there is any mistake, something is to blame, not the surgeon.

"Then there are other German specialties, such as metal-handed knives, the invariable introduction of needles by a holder, the wearing of special operating apparel, the strict attention to asepsis and antisepsis, and the selection of only such operations as can be performed with deliberation and in open daylight. All have more or less influenced American surgery.

"Results are, after all, the test, and on these a judgment must be formed, and from this standpoint my belief is, that if English surgeons do not wish to be overtaken, they must put their best foot foremost."

Our own conclusions from reading Mr. Morison's very impartial observations are that American surgery is well abreast of the best surgery abroad, and is probably better

[1] Edinburgh Medical and Surgical Journal.

than that in Great Britain and France. This is not said in any vainglorious spirit but is a fair deduction from the impressions of an intelligent and observant foreigner.

SCARLET FEVER AND ITS TREATMENT.

THE *Times and Register* publishes, under date of March 12th, a "Scarlet Fever Number," for which the excuse is the existence of a not very severe epidemic of the disease in Philadelphia. Very little, we are told, has been written upon scarlatina during the past year; the whole world contributed but fifty-three papers on this subject during 1891, according to the *Index Medicus*. Scarcely any item of importance has been discussed except the occurrence of scarlatina in animals; and this has excited practically no comment on this side of the Atlantic. Of the two special methods of treatment advanced lately, neither Illingsworth's biniodide of mercury nor Wilson's chloral induced a single paper in 1891. Inquiry among many active practitioners has failed to discover anyone who had employed either.

The articles in the *Times and Register* bear mainly on the subject of treatment and prophylaxis. Dr. K. B. Page dwells on the value of hydrotherapy. Dr. W. B. Stewart places his main reliance upon infusion of digitalis. Dr. W. R. D. Blackwood gives little medicine, and does not care much about high temperatures, unless they are above 105° F.; he doesn't worry the kidneys with diuretics, and he pins his faith on water internally and externally, with supporting treatment. Dr. E. Chenery gives hyposulphite of soda every hour or two for a time. Among other therapeutic notes the following are recorded:

Waugh describes a case of malignant nasal scarlatina that recovered under the profuse application of peroxide of hydrogen.

Manning advises the use of boric acid and glycerine for pharyngeal scarlatina.

Thorne claims striking results from the use of oil of eucalyptus internally and applied to the skin, with carbolic and tannic gargles.

Caiger has analyzed 1,008 cases, with a mortality of 4.67 per cent.

Hughes recommends nitro-glycerine in threatened nephritis.

Jamison accelerates desquamation by employing antiseptic inunctions during the whole course of the attack. He recommends Eichhoff's three per cent. resorcin salicylic superfatted soap.

Twenty prescriptions for scarlet fever by various authorities are given. They consist of antiseptic ointments, febrifuges, and diuretics.

Besides this we find writers quoted who believe in the efficacy of chloral, iodide of potassium, and biniodide of mercury.

There is a general agreement as to the utility of baths in hyperpyrexia, and of stimulants, antiseptic ointments, and gargles.

But it seems unfortunate that so much divergence of practice exists as to internal remedies. The profession would dignify itself by affirming, for example, whether any internal remedies are really needed in uncomplicated cases, and what these remedies should be. There should be more harmony also as to the character of the local applications, which now vary from the useless boracic acid to the toxic, and perhaps equally useless, corrosive sublimate solutions.

The untrustworthiness of sulphur fumigation as a disinfectant is generally admitted; and the value of evaporating dishes containing antiseptics, aside from making a smell, may be questioned.

ONE WAY OF PREVENTING VENEREAL DISEASE.

THE Dutch colonial authorities have adopted a novel, if not exactly moral, mode of keeping down syphilis in their armies. Formerly venereal disease was very prevalent among the Dutch troops stationed in colonial garrisons, 211 cases in every 1,000 soldiers being the average number. This has been now reduced to only 75 per 1,000 by a system of what might be called enlisted prostitution. According to the *Lyon Médical*, each soldier in barracks is allowed to take a mistress from among the native women, and these are registered and subjected to military discipline. If taken sick they are treated in the army hospitals, and are reckoned in the non-combatant portion of the service. They number over 10,000, while there are about 30,000 soldiers. This is no doubt a very effective measure of prophylaxis for the men, but what about the ten thousand native women who are served up for the delectation of their Christian conquerors?

DRUNKENNESS AND FRACTURE OF THE SKULL.

A NUMBER of striking cases have occurred lately showing how easy it is to mistake symptoms of fracture of the skull and intra-cranial injury for alcoholic intoxication. This is especially difficult when the patient is both alcoholic and apoplectic. In a recent lecture on "Neurological Fragments," by Dr. Hughlings Jackson, this point is dwelt upon and some interesting illustrations given. "It is well known," he says, "that men fatally ill from cerebral lesions are sometimes locked up in police cells for drunkenness. It needs insisting on that there may be, from grave intra-cranial lesions soon causing death, not only insensibility, but manner and conduct like that of a person partly intoxicated by alcohol. Dr. Stephen Mackenzie and I have recorded a fatal case of meningeal hemorrhage producing a condition which, without the history of onset, would—certainly by the non-medical—have been taken for drunkenness. The patient was violent, swore, and, what is more striking, there was a purposive action; the patient got the chamber utensil from under his bed and used it. At the London Hospital we occasionally have under care men who, after sucking raw spirits out of a cask, are seemingly as deeply comatose as other men are after large and fatal cerebral hemorrhage. Without the history of the circumstances and of the mode of onset, the diagnosis of apoplexy produced by alcohol from that produced by cerebral hemorrhage is very difficult, and may be impossible. For an hour or two after injuries to the head there may be a condition very like that of a man slightly drunk."

The fact that diagnosis is difficult in these cases is, as a

rule, no excuse for serious errors in treatment. Few instances occur in which careful examination will not lead the surgeon, at least, to suspect something more than drunkenness. If there is any doubt, the patient should receive the benefit of it. This point, however, should be further borne in mind: Surgical intervention is never indicated except when the locality of the intra-cranial hemorrhage is surely shown by the external injury or by paralysis or convulsions.

We think that the ambulance surgeons and house-staffs of our hospitals have received some pretty sharp lessons in their business of late; probably it will do them good. The average hospital interne, as soon as he has been adorned with a little authority, is too apt to lose his head and fancy that he is an easy master of all medical and surgical problems. The qualities of modesty and conscientious devotion to their work will admirably become these young men, and save them from the perhaps too severe criticisms of an unsympathetic public.

WHERE THE NOISE COMES FROM.

A FRENCH physician of an inquiring turn of mind has had his curiosity excited by those mysterious noises which sometimes roar around the equatorial zone of charming woman, especially if she has been indulging in unlimited bonbons, and set himself about solving the problem of their origin. He thinks he has done so, and his conclusions form one more indictment against the destroyer of the health, the grace, and the beauty of form of the gentler sex—we mean the corset. The pressure of the stays causes, he says, a constriction of the stomach dividing it into two lobes, and during respiration the gases and liquids contained in the organ pass alternately from one to the other lobe. Thus during expiration the diaphragm ascends, removing pressure from the upper lobe, while the lower lobe is compressed by the abdominal muscles. The air and fluids are thus forced into the upper lobe, and rumble and whistle as they squeeze through the constricted zone in the grasp of the corset. During inspiration the conditions are reversed, and the noisy current runs the other way. The sounds cease as soon as the stays are taken off, and reappear when they are again applied. The moral is obvious. Of course it is.

Methylene Blue.—A case of retinitis, due to acute Bright's disease, has been treated successfully with this drug in France by Dr. Gillet de Grandmont. He gave it to a patient whose urine contained a considerable quantity of albumin, in doses of two centigrammes three times a day. It caused a marked improvement, the renal symptoms abated, and the retinitis disappeared so rapidly that the sight was normal in four days. Was this a coincidence, or was the improvement due to the milk diet, which, in all the reported cases, has been strictly adhered to? Methylene blue is excreted by the kidney, and has the curious characteristic of turning the urine a deep green. Dr. G. Paul proposes to take advantage of this property to produce a moral effect upon hypochondriacs and malingerers. A dose of from five to ten centigrammes gives rise to decided coloration of the urine without causing any other symptom.—*The Lancet.*

News of the Week.

International Congress of Gynecology and Obstetrics.—The first session of this Congress will be held in Brussels, September 14 to 19, 1892. Three leading questions will be offered for discussion: 1. "Pelvic Suppurations," referee, Dr. Paul Segond, of Paris. 2. "Extra-Uterine Pregnancy," referee, Dr. A. Martin, of Berlin. 3. "Placenta Prævia," referee, Dr. Berry Hart, of Edinburgh. The fee for members participating in the first session is thirty francs. This will entitle the holder to a copy of the Proceedings of the Congress. Life membership may be secured by the payment of three hundred francs. In connection with the Congress there will be an international exposition of instruments and appliances, pertaining to gynecology and obstetrics. All communications pertaining to this Congress should be mailed direct to the American Secretary, Dr. F. Henrotin, 353 La Salle Ave., Chicago, who will promptly furnish all information. All notifications to be forwarded should be received by August 1st.

Death of Professor Edward A. Freeman.—Death loves a shining mark, but in these days it is not often such a disease as small-pox that he uses in his archery. The death of Professor Freeman from this disease seems as unnecessary as it was sad and unexpected. We shall be interested, when further details are given, in learning whether the distinguished professor was an anti-vaccinationist, or had neglected vaccination, or whether perhaps it was one of these cases in which vaccination failed to protect. The premature death of wise and useful men is always to be deplored, but most of all when it is the result of a contagion.

A Death from Chloroform occurred recently in the practice of a physician of this city. The patient was a man of about fifty-five years, upon whom amputation of a finger was to be performed.

The Surgeon who wishes to be aseptic is allowed to have nails one millimetre (0.001) long.

The Mistake of a Great Diagnostician.—A tale is going the rounds here now which illustrates how the great men sometimes trip up, and which can serve the purpose of making the little fellows more cautious, but at the same time of giving them courage. I have it directly from the lips of Professor Kundrath, the *chef* of the Pathological Institute, and there is no question that the story is entirely true. There came one day a patient to Professor Nothnagel. This patient had a very large area of dulness over the upper abdominal and lower thoracic regions of both sides. He also gave a history of having had a dog with whom he had associated a great deal. The case was very plain to Professor Nothnagel as echinococcus, and he lectured on it at great length for an hour before his class of students. Having served this good purpose the patient was sent to Billroth's clinic for operation. A laparotomy was performed, but, wonder of wonders! the liver was all right, only perhaps a trifle smaller than usual. The spleen was also without fault, and it then became apparent that the trouble was in the thoracic instead of in the abdominal cavity. The abdomen was closed up—and the patient died a few days

afterward. The pathologist—the terrible, cruel pathologist—demonstrated a pericarditis with effusion!—Vienna Correspondent *American Practitioner*.

A Bill to Cripple the Library of the Surgeon-General's Office.—Under the provisions of the Army Appropriation Bill, reported by the Military Committee to the House of Representatives, the usual annual appropriation for the Library of the Surgeon-General's office, United States Army, is cut down one-half viz., from $10,000 to $5,000. If this is not changed, either in the House or in the Senate, the result must be that the formation of a complete medical library at Washington, which has been going on so successfully for the last ten years, must be stopped.

To Investigate the Subject of Immigration—The National Senate and House Committees on Immigration have come to New York and have begun to take evidence as to the character of the present immigration, with a view to formulating a policy which will exclude at least the more undesirable of the enormous number of foreigners who annually come to this country.

College Commencements.—The Atlanta Medical College held its Commencement on March 2d, and the Southern Medical College on March 3d. Both institutions graduated large classes.

A New Medical Journal, called the *Practitioner's Monthly*, has just appeared. It is published at Kingston, N. Y., and edited by Drs. C. L. Dodge and J. Chambers.

A Bill to Help Criminals and Quackery is before the State Legislature. It reads thus: "Every person who shall entice, induce, or inveigle any other person to violate any statute or commit any crime, for the purpose of informing against such person, or in order to become a witness on the trial of such person for such crime or offence, shall be deemed and held to be an accomplice in the commission of such crime or offence, and shall be subject to the same penalties and punishment as is provided by law for the offence or crime committed." The special medical interest in this lies in the fact that it would at once paralyze the efforts of our County Society to secure evidence against quacks; it would give them all a new lease of life and undo the work of years. We are glad to learn that there is an active opposition to the bill.

The War on Quacks.—A sympathetic daily contemporary says: "The regular medical faculty is winning success in the war upon quacks, one of whom has just been sent to the penitentiary for practising without a proper diploma. Other arrests of quack doctors are to be brought about as soon as possible; and an attempt is to be made to secure the total abolition of unauthorized, unlicensed quackery. The Committee on Legislation of the State Medical Society has also been actively engaged in the defeat of a bill before the Legislature through which a horde of medical ignoramuses might be let loose upon the community. Then the State Board of Medical Examiners has been put on the alert in regard to the issue of licenses to practitioners. All these signs are hopeful. We must get rid of the quacks."

Sections of the American Medical Association.—The Committee appointed at the last meeting of the American Medical Association to consider the best means for promoting the prosperity of the Sections of the Association will hold an adjourned meeting in the Hotel Cadillac, Detroit, Mich., June 6, at 3 P.M. Dr. John S. Marshall, Chairman, 9 Jackson St., Chicago, writes that the Committee would esteem it a favor if each member of the Association would communicate in writing his or her views concerning the best measures for promoting the development of the Sections.

Mme. Lachapelle, Midwife.—The interesting historical sketch of Madame Lachapelle to which we referred in the issue of February 24th, was not from the pen of Dr. Osler, as was there stated, but that of Dr. Hunter Robb, resident gynecologist to the Johns Hopkins Hospital, Baltimore.

National Conference of Charities and Correction.—The 19th session of this organization will be held in Denver, June 23 to 30, 1892. The preliminary programme has just been published, and its topics include many of the important social problems of the day. The organization has standing committees upon State Boards of Charities, Reformatory Work, Kindergartens and Child-saving, Care and Classification of the Insane, Commitment and Detention of the Insane, Charity Organization in Cities, The Indian Policy in its Relations to Crime and Pauperism, The Colony Plan for the Feeble-minded, Immigration and Migration between States, Defensive and Preventive Measures against Pauperism and Crime, and the Co-operation of Women in the Management of Charitable and Penal Institutions. Each of these committees has charge of a general session of the Conference, and several of them will also conduct special or sectional sessions, in which they will discuss their subjects in detail. The membership of this Conference is free to all, and whosoever will may come in, on a footing of the most perfect equality. The fact that one is interested in its work makes him a member, and entitles him to a seat and a voice in its discussions. Any one desiring further particulars as to reduced railroad fare, hotel accommodations, etc., may address Alexander Johnson, Secretary, Indianapolis, Ind., who will send circulars and answer inquiries.

Hæmol and Hæmogallol—Hæmol and hæmogallol, prepared according to the directions of Kobert, are obtained from blood. Hæmol is a brownish black powder, and hæmogallol a reddish-brown. The introduction of these substances into therapeutics rests on the fact that the derivatives of the coloring matter of blood, obtained by the action of reducing agents, have a hæmatopoietic action both in health and disease. They are given in capsules in doses of from 0.1 to 0.5 gramme during the day. Healthy persons are able to take as much as 1 to 5 grammes of hæmogallol Hæmol contains traces of zinc left by design. The zinc it beneficial in slight lesions of the stomach, which might result in ulcer. Given in the form of hæmol the zinc loses its caustic action, and does not cause nausea.—*The Lancet.*

Association of American Physicians.—The next annual meeting of the Association of American Physicians will be held on Tuesday, Wednesday, and Thursday, May 24, 25, and 26, 1892, in the Medical Museum and Library, Washington, D. C. The subject selected for dis-

cussion is "Dysentery." Dr. William T. Councilman, as referee, will consider the etiology and pathology, and Dr. A. Brayton Ball, as co-referee, the symptomatology, complications, and treatment. The following papers will be presented: "The President's Address," by Dr. Henry M. Lyman; "The Production of Tubular Breathing in Consolidation and other Conditions of the Lungs," by Dr. Charles Carey; "A Contribution to the Study of Hepatic Abscess," by Dr. William C. Dabney; "Tube Casts and their Diagnostic Value," by Dr. I. N. Danforth; "The Treatment of Follicular Tonsillitis," by Dr. George M. Garland; "The Morbid Anatomy of Leprosy," by Dr. Heneage Gibbes; "A Collective Investigation in Regard to the Value of Quinine in Malarial Hæmaturia or Malarial Hæmoglobinuria," by Dr. Hobart A. Hare; "Treatment of Acute Dysentery by Antiseptic Colon and Rectal Irrigation," by Dr. W. W. Johnston; "Alcoholism," by Dr. Thomas S. Latimer; "A Study of the Seasonal Relations of Chorea and Rheumatism for a Period of Fifteen Years," by Dr. Morris J. Lewis; "A Case Presenting the Symptoms of Landry's Paralysis, with Recovery," by Dr. Francis T. Miles; "Report of a Case of Glanders, with Results of Bacteriological Study," by Dr. William Pepper; "Practical Results of Bacteriological Researches," by Dr. George M. Sternberg; "Misconceptions and Misnomers Revealed by Modern Gastric Research," by Dr. Charles G. Stockton; "The Significance of Intermission in Functional Nervous Diseases," by Dr. William H. Thomson; "Certain Toxicogenic Germs Found in Drinking-water," by Dr. Victor C. Vaughan; "Studies in Hypnotism," by Dr. B. F. Westbrook; "Pulsating Pleural Effusions," by Dr. James C. Wilson; "The Cold Water Treatment of Typhoid Fever," by Dr. George Wilkins. Papers will be read by Drs. Samuel C. Chew, A. Jacobi, Morris Longstreth, and T. Mitchell Prudden, titles of which will be announced later.

Definition of the Word "Regular."—In the army regulations, in paragraph No. 1544, there is the phrase, "and a graduate of a regular medical college." Dr. J. G. Gilchrist was appointed by the Central Iowa Homœopathic Medical Society to correspond with the Surgeon-General as to the meaning of the term "regular." The doctor asks: "Will you be kind enough to inform us what the word 'regular' means? Has it a sectarian meaning, distinguishing a particular school or class of practitioners, or does it refer to a college having the right, under the laws of the land, to grant medical degrees, and is conducted in an honorable and reputable manner?"

The reply is as follows:

"Subject—Meaning of Term 'Regular Medical College.'

"War Department, Surgeon-General's Office,
"Washington, August 4, 1891.

"*James G. Gilchrist, M.D., Committee of Central Iowa Homœopathic Medical Society, Iowa City, Ia.*

"Sir: Acknowledging the receipt, by reference, of your communication of the 1st instant, requesting a decision as to the term 'Regular Medical College,' in paragraph 1544, Army Regulations, I am instructed by the Surgeon-General to inform you that the term 'regular' is used in its most comprehensive sense, as indicating that a college is well equipped and prepared to cover the whole ground of the science and art of medicine in its teaching, and requires not less than a three years' course of study to secure its diploma.

"Very respectfully,
"Charles R. Greenleaf,
"Lt. Col. and Asst. Medical Purveyor, U. S. Army."

Another Medical College for Women is to be established at St. Paul, Minn. We are told that another such institution is needed because there are now but three in this country. There may be another medical college needed for ladies medically ambitious, but not because the supply is at present poor. There are two such colleges in this city, one in Philadelphia, Baltimore, and Chicago.

The Practice of Bleeding had just as strong foes in the seventeenth century as in the nineteenth. The people did not want to be bled; they preferred to take medicines. Most of the regular faculty, however, led by such men as Patin, believed in bleeding, and here is Patin's defence: "Our Parisians," he says, "take little exercise, drink and eat too much, hence they become plethoric. In this condition, they are almost never relieved of their diseases, if powerful and copious bleeding be not used." Besides, he adds: "For the frequent bleedings practised here, they are due to the universal debauchery and the too good-cheer that abounds. We do not bleed from custom, but from necessity, according to rules and regulations. The pretended reformers and legislators are always complaining, but give no substitute remedy. It is not a great thing to tell a man the right road to take, but it is necessary to place him on the real road he is to travel. Some foreigners blame our frequent bleedings; they know neither the cause nor the fruit nor even the necessity of the procedure. If we bleed too much, let them give us a remedy that will take its place; and what other remedy will equal bleeding? In writing, let those dissatisfied speak out. God even suffers tyrants, usurers, and those who take His name in vain to live."

For Cure of Insomnia.—Repeat twelve times the following:

Like the passionate palm that breathes all the odors of day
To the soul of the night;
Like a river that runs and frets on its turbulent way
To the quiet deep;
Like the swallow, weary of cold, that southward gleams
To her land of delight,
So the heart overfull of its sorrow flows over in dreams
Of compassionate sleep.

—Ruth Johnston, in March *Lippincott's*.

Poisoning from Arsenical Curtains.—We commend to our Boston brethren the following note, by Dr. W. Harding, published in the *Lancet*: "A good example of chronic arsenical poisoning on a large scale occurred in this asylum, and a short account of it may be both interesting and instructive. In the endeavor to make the wards of an asylum bright and cheerful, and to do this at as little expense as possible, it is not improbable that the nature of the coloring materials used may be overlooked, and that some of the gastric and intestinal disorders which disturb the peace of mind of medical superintendents may be cases of arsenical poisoning. For a long period the nurses here were in poor health. First

one and then another was laid down until, within a few months, nearly every nurse on the staff had been, or was, under medical treatment. Headache, neuralgia, gastric derangements, loss of appetite, constipation or diarrhœa, irritation of eyelids, anæmia—these were the chief symptoms complained of. Drugs did not appear of much avail, but a holiday had a marked effect for good. At last one nurse had the eye symptoms in a more pronounced form, and suspicion was aroused. In each nurse's room was a green baize curtain, used as a covering for dresses, etc. A portion was taken and examined. It was found to be impregnated with arsenic to an astonishing extent. These curtains were removed; the rooms freely ventilated; medical treatment was stopped; the symptoms disappeared, and, though some months have elapsed, have not returned. The baize was similar to that used for covering doors, etc., and was obtained from two manufacturers."

The Hospital Saturday and Sunday Collections amounted this year to $60,052.08, or about $2,000 more than last year. In the distribution the largest sum, $5,793.01 went to Mount Sinai Hospital.

The Proposed Removal of St. Luke's Hospital will no doubt be for its best advantage. But we learn that it has caused several of the visiting staff to decide to resign. The hospital, in its present convenient site, has been able to command the time and attention of men in most active practice.

The Dose of Somnal.—In the article on somnal by Dr. O. M. Myers, in the MEDICAL RECORD of March 12th, under the head of "Physiological Action," the types made the author say: "and if the dose has been excessive (℥ ij.) the arterial pressure," etc. The amount should have been ʒ ij. instead of ℥ ij.

Wholesale Insanity.—A man was lynched in Wisconsin some time ago, and at the trial of the lynchers recently, the jury very compassionately found that they were all insane, and therefore not guilty of murder. Three of the men were pronounced still insane, but the rest were said to have recovered, and so were released from custody.

The Pan-American Medical Congress in the West Indies.—Dr. William F. Hutchinson, Assistant Secretary-General of the Pan-American Medical Congress for the West Indies and Venezuela, is now on a tour of the Antilles in the interest of the Congress. Writing from St. Kitts under date of February 25th, he transmits a report of formal action by the profession, under the presidency of Dr. Branch, President of the Leeward Islands Branch of the British Medical Association, cordially approving of the object of, and pledging support to, the Congress, and nominating certain officers. At St. Thomas, Danish West Indies, Dr. Mortensen, King's Physician and member of the International Executive Committee of the Congress for these colonies, is securing the most hearty co-operation of the profession. Dr. Hutchinson has had equally enthusiastic receptions at Santa Cruz and at Philipsburg, the latter on the Dutch island of St. Martin. In several instances the governors of the colonies have expressed a warm interest in the Congress, and will designate delegates.

Obituary.

D. HAYES AGNEW, M.D., LL.D.,

PHILADELPHIA, PA.

DR. D. HAYES AGNEW, the famous surgeon of Philadelphia, died at his home March 22d, in the seventy-fourth year of his age. He was born in Lancaster County, Pa., in 1818, and was the son of Dr. Agnew, an eminent physician of that section. After completing his classical education at Newark College, Delaware, he entered the Medical Department of the University of Pennsylvania, from which he obtained in due time his degree of Doctor of Medicine. He started in practice in the rural districts, but soon after moved to Philadelphia, where he early in life became a lecturer on Anatomy in the Philadelphia School of Anatomy. In 1854 he was elected one of the surgeons of the Philadelphia Hospital, and founded the pathological museum of that institution. In 1863 he was appointed demonstrator of anatomy and assistant lecturer on surgery in the University of Pennsylvania, and soon afterward became one of the surgeons of Wells's Ophthalmic Hospital. In 1865 he was elected to fill a similar position in the Pennsylvania and Orthopædic Hospitals. In 1870 the highest point of his ambition was reached by his election to the chair of Operative Surgery in the University of Pennsylvania, which position he continued to hold up to the time of his death. His contributions to surgery have been numerous and valuable, culminating, in the crowning achievement of his life, in the classical and elaborate system of surgery which at once gave him a world-wide reputation as a ripe scholar, a judicious teacher, and successful practitioner. It will long remain a standard work of its class, founded as it is upon remarkably wide surgical experience in every department of the operative art. As an operator, he was possessed of remarkable skill, and long enjoyed a varied and lucrative surgical practice, which extended over a large area of his native State. His position as a recognized surgical authority won for him the distinction of being chosen one of the consulting surgeons of the late President Garfield, whom he attended during his long and painful illness, and upon whom he performed a surgical operation with a view of extracting the murderous bullet.

Passing away at a ripe age with a long life of labor in his profession, he has left an honored name, which will always stand in the front rank of representative American surgeons.

Reviews and Notices of Books.

THE MEDICAL NEWS VISITING LIST, 1892. Lea Brothers & Co. 1891.

"THE Visiting List" is about the same as annually offered. It is convenient and useful for ordinary pocket use. It contains some valuable suggestions.

HUMAN MONSTROSITIES. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania, and GEORGE A. PIERSAL, M.D., Professor of Histology and Embryology in the University of Pennsylvania. Part I. Pp. 88. Illustrated with Seven Photographic Reproductions and Eighteen Wood-cuts. Philadelphia: Lea Brothers & Co. 1891.

THIS beautiful work gives promise of being a credit not only to its authors but to American obstetrical literature. Its principal value lies in the photographs, which are unusually distinct. With many of the wood-cuts the reader will find himself already familiar.

The text presents a carefully prepared compilation from various works on the subject of teratology, Geoffrey Saint-Hilaire's classification being followed. The paper, typography, and binding of the volume render it an *édition*

de luxe, which will form a valuable addition to the library of the specialist, perhaps also of the general practitioner. The amount of labor which must be expended upon a monograph of this character is apt to be appreciated by only a limited circle of readers; but the scholarly authors may rest assured that the work will more than "fill a gap in English literature," as they modestly express the hope in the preface. We shall await the appearance of the succeeding numbers with great interest, confident that they will continue to reflect credit upon the industry of the well-known writers.

ESSENTIALS OF BACTERIOLOGY: Being a Concise and Systematic Introduction to the Study of Micro-organisms, for the Use of Students and Practitioners. By M. V. BALL, M.D., late Resident Physician German Hospital, Philadelphia, etc. With Seventy-seven Illustrations, some in colors. Pp. 159. Philadelphia: W. B. Saunders. 1891.

THIS little volume contains a large amount of information condensed within a small compass. It covers the whole subject of bacteriology and is divided into two parts, one dealing with the technique of bacteriological examinations, the other with a description of individual micro-organisms and the various methods of staining and cultivating them. Although the proper pursuit of this fascinating study is practically impossible outside of a regularly equipped laboratory, every practitioner of medicine at the present day should have at least a theoretical knowledge of the subject, which he can readily acquire from a perusal of this book.

The illustrations are clear and satisfactory. In its typography, index, and proof-reading it shows the same careful work as the other compends in the series.

JAHRESBERICHTE ÜBER DIE FORTSCHRITTE DER ANATOMIE UND PHYSIOLOGIE. Herausgegeben von DR. L. HERMANN UND DR. G. SCHWALBE. XIX. Band, 1890. I. Abtheilung, Anatomie und Entwickelungsgeschichte. II. Abtheilung Physiologie.

THESE large and critically edited volumes are invaluable to those who wish to keep pace with the progress in anatomy, embryology, and physiology.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.A., M.D., LL.D., F.R.S. Fifth Edition, Revised. Part IV. London and New York: Macmillan & Co. 1891.

THIS fasciculus contains only the conclusion of the chapters on the nervous system, and the tissues and mechanisms of reproduction; there is also an Appendix on the Chemical Basis of the Human Body. Foster's "Physiology" holds its own as one of the best and most authoritative works on this branch of medical science. If every doctor should read it through once in five years he would be a better practitioner and a wiser man.

AN INTRODUCTION TO THE DISEASES OF INFANCY. By J. M. BALLANTYNE, M.D., F.R.C.P.E. Edinburgh: Oliver & Boyd, Tweeddale Court; London: Simpkin, Marshall, Hamilton, Kent & Co. (Limited). 1891.

A VERY instructive book founded on a thorough knowledge of the anatomy and physiology of the infant. The author has devoted considerable care in the study of the most important points necessary to the making of a diagnosis in children. This book should be perused by all pædiatrists, and the colored plates carefully studied.

THE PRESCRIBER'S PHARMACOPŒIA. A Synopsis of the more Recent Remedies, Officinal and Unofficinal, with a Therapeutic Index and a *Résumé* of the British Pharmacopœia Additions, 1890. By a Member of the Pharmaceutical Society of Great Britain. Second Edition. Bombay: Kemp & Co. 1891.

THE object of this little work is to furnish information to practitioners of medicine concerning the more recent therapeutic agents about which many of the ordinary text-books are silent. It seems to have been carefully compiled, and the information it gives is, so far as we have been able to compare it, accurate and reliable. It is intended chiefly for Indian practitioners and those living in tropical climates, but it is almost equally serviceable to physicians in other parts of the world. It is a very useful complement to the standard works on materia medica.

UNDER THE SOUTHERN CROSS. A Guide to the Sanitariums and other Charming Places in the West Indies and Spanish Main. By WILLIAM F. HUTCHINSON, A.M., M.D.; Fellow of the American Climatological Society, Member of the American Mecidal Association, Member of the American Public Health Association, etc. Providence: The Ryder & Dearth Co. 1891.

THIS is a book that really does "fill a long felt want.' The visitor to the West Indies has hitherto been obliged to gather his information concerning the places to be visited from ordinary books of travel, written for the most part to please the reader rather than to convey to him any useful information, and containing often most inaccurate and misleading statements. This was for the ordinary tourist, while the health-seeker and his medical adviser had no means whatever of informing themselves as to the climatic conditions, and as to the diseases most likely to be relieved by a sojourn in the islands. Dr. Hutchinson's book gives all this information, and much more, concerning hotels, boatmen, cab hire, etc., and is at the same time a most delightfully written book of travel, which will be read with pleasure by anyone, whether intending to take a trip to the West Indies or only to learn of them from the pages of the author. Physicians also will find it exceedingly useful in helping them to give advice to their patients who must run away from the Northern winters or spring.

HYDATID DISEASE IN ITS CLINICAL ASPECTS. By JAMES GRAHAM, M.A., M.D. Edinburgh and London: Young J. Pentland; Philadelphia: J. B. Lippincott Co. 1891.

THIS book gives in detail the description of hydatids, their development, growth, and most radical form of treatment. The book is very instructive, and the colored plates very interesting.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Sixth Session, held at Washington, D. C., September 22 to 25, 1891. Volume VI. Pp. 319.

THE book in hand contains twenty-three papers by as many of the leading men of the profession. Notable is the one by Dr. Francis Delafield, "On the Disease of the Kidneys, popularly called Bright's Disease," in which he rejects the current classification of kidney disease for one founded on the nature of the morbid process, viz., congestion of the kidney, degeneration of the kidney, and inflammation of the kidney. Under this classification he groups all kidney troubles, giving their symptoms, etiology, and treatment. It is a paper deserving of careful study. Among other subjects discussed are "Tuberculosis" and "Tuberculin" (three papers); "Remote Results of the Removal of the Ovaries and Tubes" (three papers); "Relations between Arterial Disease and Tissue-Changes" (two papers). Other articles are equally worthy of notice, but space forbids.

Doctors in England are complaining that the parsons in the rural districts prescribe for minor ills among the poor, and thus take away patients who could afford to pay small fees.

Dentists in Florida do not need a diploma to practise their profession in that State, so a local court has recently decided.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 5, 1892.

BEVERLEY ROBINSON, M.D., PRESIDENT, PRO TEM.

How to Raise Sunken Noses.—DR. R. F. WEIR presented two patients illustrating rare surgical procedures. The first was a young lady whose nose had sunken from absence of the septum. By making an incision underneath the lip and skin he was enabled to introduce a platinum bridge, which held up the skin while its feet rested on each side of the nasal aperture. Morton had had cases in which the bridge had remained in four years, and Dr. Weir one in which it had remained one year, while in this patient the operation was performed five or six weeks ago. It had been satisfactory in holding up the nose, and had caused no unseemly scarring which other operations involved.

Cranial Gap Filled by Celluloid Plate.—Dr. Weir presented a lad who on November 30, 1891, had sustained a blow on the head, causing a depressed fracture on one side at the junction between the forehead and hairy scalp. After removing the fragments of bone the space left was about an inch and a half by an inch in diameter. The question arose whether to leave this space in an exposed locality unprotected except by the skin, or to replace the fragments of bone, or resort to some other measure. There were three objections to replacing the fragments: 1, They might not unite; 2, if they should unite more or less completely they might subsequently shrink by absorption; 3, in spite of representations of surgeons, he had not been convinced that they would prove entirely innoxious. While the spiculæ would probably become rounded off by absorption, yet since in about twenty per cent. of cases of even simple fractures of the skull epilepsy subsequently developed, there was a basis for some fear of this result after replacing fragments of bone. Finally, he concluded to resort to a method which Fraenkel first practised in experiments upon animals, that is, to fill up the gap left on removing a piece of the skull with a plate of celluloid, and allowing the scalp to heal over it. He would not, however, have resorted to this method on the strength of experiments upon animals alone, but recently had read the report of its application in several instances on man by Professor Billroth. The plate which Dr. Weir used was about one-sixteenth of an inch in thickness. The scalp healed over readily, and the boy had thus far experienced no difficulty.

DR. SHRADY remarked that the case of sunken nose lifted was an interesting reminder of the older method in which a silver plate was used.

DR. WEIR said he had tried to find a record of the silver-plate method, and had gone back in his investigations as far as 1800, but had not succeeded.

DR. SHRADY said he had had occasion to look the subject up five or six years ago, and had found a record of it in an old encyclopædia of surgery. Concerning the covering of the opening in the skull with celluloid plate, it being a foreign body, he would fear that in time it might cause trouble. Perhaps it would become encysted, as bullets were sometimes known to do. He asked whether the plate was not somewhat larger than the opening.

DR. WEIR replied that it was not larger, but was a neat fit for the opening, and rested upon the dura mater. He added another reason for closing the opening, that two cases had been reported in which central nervous trouble seemed to depend upon too large an opening in the skull with disturbance of the circulation, the symptoms disappearing when the gaps were closed.

The Complications and Sequelæ of Tuberculous Lesions Involving the Joints, with a Discussion on the Most Efficient Management of the Same.—DR. V. P. GIBNEY read the paper (see p. 344).

DR. W. T. BULL said he felt under obligations to Dr. Gibney for the manner in which he had brought this subject before the Society. Certain of the features brought out were of special interest to him. One related to the injection of iodoform into abscess cavities, or what had been called, for short, the iodoformization of abscesses. He had not known that any person had practised this to any extent in this country except Senn. Personally he felt somewhat dubious regarding it, especially in joint disease. He did not think Senn's cases had been followed sufficiently long to warrant conclusions as to its safety and value. Dr. Gibney's experience, however, would lead him to try the method when he might meet with such cases in the future.

He could confirm the author's statements regarding the advantage of plaster-of-Paris dressing after osteotomy at the hip, and also as to the value of the Billroth splint. He was pleased to know that he preferred osteotomy below the trochanter minor in osseous deformity following hip joint disease.

He did not think Dr. Gibney had fully shown that it was best for all tubercular disease about the tarsus to heal with, rather than without, suppuration. He was unable, however, to oppose the view by referring to personal experience.

DR. WEIR believed with Dr. Bull that experience with iodoform in abscesses about joints had been too recent to admit of definite conclusions. Experiment in past years had not encouraged him to take up the practice, yet Billroth's results had led him to think the subject over again. He had been interested in that part of the paper relating to compression effects in Pott's disease. He had not supposed that orthopædic treatment alone would give such encouraging results as had been put forth by the author. He believed surgical means had yielded very good results, but unfortunately there was still considerable mortality from that method.

Regarding better results following tuberculosis at the ankle with abscess rather than without abscess, he must say that he had never thought it was a good thing to have an abscess, and he did not think so yet, although he had not had as great an experience as Dr. Gibney. He believed that an abscess connected with the tarsus was regarded by surgeons generally with a good deal of regret, and in his own practice he made it a custom to open as early as possible.

DR. GEORGE F. SHRADY said his experience had been similar to that of Drs. Bull and Weir; that he had been accustomed to look upon an abscess as a calamity, and had made it a custom to shorten the suppurative process as much as possible by opening, scraping, and fixing the joint, etc. Dr. Gibney's experience in the Hospital for Ruptured and Crippled was, however, very extensive and deserved to be duly considered.

DR. BULL inquired of Dr. Gibney whether he drew a contrast between tubercular ostitis of the tarsus in children and in adults. He asked the question because he remembered that a good many years ago Dr. Gibney had written a paper in which he demonstrated that this disease in children would generally run a pretty conservative course if let alone, or treated without surgical measures would terminate satisfactorily. He had generally followed that advice, but when he had interfered in children he had generally had occasion to regret it. A number of operations were likely to have been necessary to bring the case to a termination, or else the patient disappeared from sight during treatment. In tubercular ostitis of the tarsus in adults, occurring in hospital practice, but one case, as far as he could remember, had terminated satisfactorily under a conservative operation. All had gone on to amputation except this one, whose entire foot was removed aside from a part of the os calcis. This man recovered with a useful limb.

Compression Paraplegia.—DR. C. L. DANA said, with regard to compression myelitis, that he quite agreed with Dr. Gibney's views of the treatment. When a case came

under his observation he promptly turned it over to a surgeon for treatment like that outlined by Dr. Gibney, or for operation. He believed surgeons had had some brilliant results from operations in such cases, yet it was only recently that a patient had died of general tuberculosis as a result, he believed, of the operation. That was a possible danger.

He said that while Dr. Gibney had spoken of a compression myelitis in these cases, he thought that clinical and also pathological facts went to show that there practically was not a myelitis; that rather there was simply an obstruction of the circulation, an œdematous infiltration in the cord which interfered with nerve impulse. In connection with this, there probably was also often a pachymeningitis, while in some bad cases there was compression and actual destruction of cord-tissue. But the destruction was a necrotic process, not truly inflammatory. It seemed to him, therefore, that the proper clinical term to apply to the condition was a compression paraplegia, and not a compression myelitis.

Joint Tuberculosis followed by Pulmonary.—Dr. R. W. Townsend said that not long ago Mr. Henry Marsh wrote a series of interesting articles by which it appeared that he had traced a large number of cases of joint disease which were followed by pulmonary trouble, perhaps twenty per cent.

Latent Tuberculosis.—Dr. Lyman said that in dogs which had previously been inoculated with tuberculosis, an experimenter had found that in thirty-three per cent. a local tuberculosis in joints could be set up by sprain or injury. It had also been found that in persons who had had tubercular joint disease there were nearly always lesions in the bronchial and mesenteric glands revealed at autopsy. It could not be said, then, that if in a person having a tubercular joint affection pulmonary symptoms should subsequently show themselves that the latter must necessarily be secondary, or that if death took place from pulmonary tuberculosis subsequent to an operation on a joint that the operation was the cause of the fatal issue. These facts, he thought, showed the necessity for not only overcoming the local trouble, but the constitutional trouble as well.

Tuberculin and Latent Tuberculosis.—Dr. Kinnicutt said, *apropos* of the remarks of the last speaker, that when they were treating cases of tuberculosis with tuberculin in the hospitals, it was not uncommon to see tuberculous trouble soon show itself at distant points where previously there had been no evidence of disease. In some instances this took place even within twenty-four hours, so soon, indeed, that it seemed impossible to explain it on any other theory than that the affection was already present, but latent.

Whom to Consult.—Dr. Beverley Robinson said the remarks of the last speakers suggested the question, When was it wise in a case of joint trouble receiving only mechanical treatment to call in an operating surgeon? Might not calling in the latter, who might have a proclivity to use the knife, result in the patient having some latent tubercular foci developed into active inflammation? The question also suggested itself, whether it was best always to excise tubercular glands, or to wait and try general and local treatment other than operative.

Dr. Kinnicutt thought that inflammation was so much more likely to take place in enlarged glands than in joint or bone troubles that one would be justified in interfering surgically much sooner. The fact that they were enlarged showed that a morbid process had already begun, whereas in the case of bones and joints he thought there might be foci of germs without any truly morbid process starting up. He believed pathologists held that the presence of bacilli in fairly large numbers was not of very much importance in itself, it was only when their effect became manifest upon contiguous tissue that danger existed.

Dr. Weir, having been asked with regard to removal of enlarged glands, replied that if the enlargement would not dissipate under ordinary means, and could be got at, it should be removed surgically.

Dr. Gibney, in closing the discussion, said it was true that tubercular joint disease differed in children and adults. Previous to twelve or fifteen years of age an indefinite amount of destruction of soft parts about the ankle and elsewhere might take place and yet the patient go on to have a very useful joint, even though far from any surgeon. An instance was given in the case of a boy who last winter had an abscess about the ankle, opened on about every operation day at the hospital, one abscess forming as another disappeared. After having passed through the winter's torment, the question arose in the summer whether to let him go to a country town, for he still had five or six sinuses and out of the hospital could not receive much treatment. A splint was prepared for him, he went out, had the limb dressed only about once a week, and in the fall all the sinuses had healed and he had a useful foot. There had been no surgical treatment during the summer. He had had so many similar cases that he no longer had any fear about a child's ankle. In the adult it was different, and he agreed with Dr. Bull, that in them the sooner the surgeon went down and took out the foci of disease the better would be the result. In the case of children the worst deformities which he had seen follow disease of the ankles had been in patients who had undergone extensive operations. The best ankles which he had seen in womanhood and which had been diseased during youth or childhood, were those marked with cicatrices. They were not tender nor sensitive, whereas the joint which had not suppurated remained sensitive and liable to strain through life.

With regard to whether there was a compression necrosis of the cord, or a compression myelitis, he could only say that when he attended a course of lectures by Dr. Seguin, some years ago, he spoke of it as a true myelitis. In a great many cases there was nothing more than compression of the cord. If the thickening of the membranes which surgeons found and attributed to an inflammatory process was really due to inflammation, he did not know why the cord itself might not become inflamed by contiguity and continuity.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, February 16, 1892.

A. H. Smith, M.D., Chairman.

The Causation and Treatment of Chronic Diarrhœa was the title of a paper read by Dr. W. W. Van Valzah (see p. 340).

Discussion.—Dr. Andrew H. Smith thought that we were greatly indebted to Dr. Van Valzah for the clear and able manner in which he had discussed the subject, which was a much more intricate one than appeared on the face of it. He thought it would be well to refer, perhaps, to one or two etiological factors which had not been mentioned directly in the paper. One of these was malaria as a cause of chronic diarrhœa. Every now and then a case would occur, and especially in hospital practice, which would baffle all our efforts to control, and yet which would terminate favorably very soon after the adoption of antiperiodic treatment; showing that the real source of the difficulty was of a malarial character. In certain instances the diarrhœa would be the only evidence of the malarial poison in the system.

He agreed with the author of the paper that a large number of the cases of chronic diarrhœa did much better on animal food than on a farinaceous diet. He believed that the reason for this was that rest was secured for the intestines by throwing the work of digestion onto the stomach. He would consider that this was one indication for the use of an animal diet whenever intestinal flatus was present. Sometimes we had a diarrhœa which

was due to imperfect action of the pancreas, and in such cases the administration of ether was indicated.

Dr. Charles E. Lusnily, the Secretary of the Section, said he could add his testimony to the great value of cleaning out the intestines in the treatment of chronic diarrhœa. It was just as useful and as clearly indicated as the adoption of the same plan in acute diarrhœa does to such a source of irritation as green apples, for instance. It had been a good while before he had been able to get himself out of the old rut, having been brought up to consider the use of opiates and astringents as the only proper way of treating these cases; and it required considerable courage at first to give a cathartic to a patient who was having ten or twelve passages from his bowels a day. Of late years, however, he had begun the treatment of all his cases with the administration of a cathartic.

Milk diet was another of the traditions handed down to us in regard to which it had become necessary to modify our views, and personally he had largely given up the use of this. Old-fashioned gruels he had found to be better digested than milk. In the diarrhœa of tuberculous subjects he believed that it was very important for the relief of the pain so frequently complained of, as well as the looseness of the bowels, that the food should be digested before it reached the diseased glands in the intestines. He therefore was in the habit in such cases of giving large doses of pancreatin an hour or an hour and a half after eating, and he had found this practice attended with very good results.

Dr. E. V. Agramonte spoke of the danger likely to arise in the use of milk, especially in summer, from putrid fermentation, which often set in long before there was any evidence of lactic fermentation. The active poison, tyrotoxican might thus be evolved, and cause very serious injury. When milk was used, therefore, unless we could be positively sure of the time that it came from the cow, he believed it was better, as a rule, to employ condensed milk. He also spoke of hemorrhoids as a cause of chronic diarrhœa which, so far as he knew, was not generally recognized.

In closing the discussion, Dr. Van Valzah said that he had not directly mentioned malaria in connection with chronic diarrhœa, but he had meant to include it among the "blood states" of which he had spoken in the paper. The marked effect which the malarial poison had upon the liver, spleen, and blood would naturally lead us to suppose that it might become an important factor in the causation of chronic diarrhœa. In regard to hemorrhoids, whenever proctitis was present in connection with the diarrhœa, hemorrhoids were also apt to be associated with it, both these conditions being usually caused by the frequency of the movements. When there were hemorrhoids, it was invariably his practice to treat them; and, in general, it was always advisable to get rid, as far as possible, of any such source of irritation.

Discussion on Opium Poisoning, Especially from the Medico-legal Side.—The discussion was opened by Dr. Andrew H. Smith, who said that the symptoms were sometimes insufficient for a positive diagnosis. When large doses of opium were taken the stage of excitement was usually very brief. Nausea and vomiting might ensue; the pulse was at first full and strong, but later became thready. The pupils were contracted and insensible to light. The breathing became more and more slow, from the paralyzing influence of the drug on the respiratory centre. Convulsions might perhaps occur, especially in children. The intellect became wholly dormant, but when roused the patient was usually intelligent In a few instances active delirium occurred. The contraction of the pupils was due to the action of opium on the nerve-centres, and not on the terminal nerve-filaments. This was of great value from a diagnostic point of view. The contraction of the pupils was almost invariably symmetrical, but one case was mentioned by Wood in which the pupil of one eye was contracted and of the other dilated. He believed that too much stress should not be laid on the contraction of the pupils. Before death the pupils generally became dilated. Then, too, it was well to remember that the atropia now so frequently associated with morphia in hypodermic injections, tended to produce dilatation.

The respirations, as a rule, were greatly retarded, and as the narcosis became more and more profound, the intervals between them became longer and longer. The paralyzing effect of the drug upon the respiratory centres became so marked that the blood had become very powerfully charged with carbonic acid before they would respond at all to the call for oxygen. The condition of the respiration was generally regarded as the most certain indication of the effects of opium on the system, and in this connection he referred to Dr. Alonzo Clark's directions in the opium treatment of peritonitis, to keep the respirations down to twelve per minute. While, however, it was undoubtedly true, in general, that the slowness of the respiration was an index of the narcotism, cases ending in death were on record in which the respirations were but little, if any, slower than normal. He then mentioned two such cases, one occurring at St. Luke's Hospital, and one at Bellevue. On the other hand, he had seen one instance in which one eighth of a grain of morphia reduced the respirations to thirteen per minute. This was, however, the only symptom of narcotism.

The skin was usually clammy. The pulse became small and frequent; but the change in its character was more tardy than the corresponding change in the respiration.

The diagnosis of opium poisoning was sometimes very difficult, especially in cases where there was no history. In apoplexy, however, the pupils were very rarely equally dilated. Again, in apoplexy, it was not possible to rouse the patient, though reflex movements could be excited; while in opium poisoning the patient could often be temporarily roused, but reflex movements could not be produced. In apoplexy there were often movements of the arm or the leg on one side (the other side of the body being paralyzed); but this was not the case in opium poisoning. In apoplexy there was apt to be strong pulsation of the carotids, but not in opium poisoning. The symptoms of apoplectic effusion in the pons Varolii were said to be identically the same as those of opium poisoning, but it seemed to him difficult to conceive of a lesion situated so exactly in the median line as to produce precisely similar effects on both sides of the body.

In compression of the brain there were usually some evidences of external violence. A patient suffering from alcoholism was apt to babble incoherently, which was not the case in opium-poisoning, and the cold douche was usually effective in dissipating to a marked extent the symptoms of alcoholic intoxication. It was to be remembered, however, that when alcoholics attempted to commit suicide they usually selected opium for the purpose. In many cases of opium-poisoning the odor of the drug could be detected in the breath and in matters vomited.

In uræmic coma the presence of albumin and casts in the urine would usually establish the true nature of the case. To what extent renal inadequacy might intensify the action of opium was a question of interest. There was not the same elimination as in health, and a very moderate quantity of the drug was sometimes attended with fatal results under these circumstances. He had known fifty drops of McMunn's elixir (equal to one-sixth of a grain of sulphate of morphia) to produce death in twenty-two hours, notwithstanding the most energetic efforts to save the patient. The urine was found to contain albumin. In another case that he had seen an ordinary dose of morphia given after a surgical operation was followed by death, and at the autopsy granular kidney was found.

Then, again, the matter of idiosyncrasy had to be taken into consideration. In the case that he had already mentioned one-eighth of a grain of morphia reduced the respirations to thirteen to the minute, and in

another which he had seen a very small quantity of the drug had produced the most alarming symptoms. For the relief of pain a lady had soaked lint in Magendie's solution and placed it on the abdomen, covering it with a hot poultice. In consequence of absorption of the morphia through the skin the respirations fell to five in three minutes, and she became cyanotic and unconscious, but could be easily roused. In this instance oxygen gas was used with excellent effect.

The post-mortem appearances after opium-poisoning were, for the most part, negative. Very seldom was any of the drug found in the stomach if it had been taken in liquid form. If it was in solid form some of it might be found. The lungs and heart generally presented a normal appearance, but sometimes the lungs were congested and the right side of the heart engorged. As a rule, the vessels of the brain were somewhat congested, but in some instances this was not the case. It was to be borne in mind that this cerebral congestion might have resulted from some other cause. The autopsy, therefore, would throw but little light unless the presence of the poison could be shown by chemical tests.

Dr. Van Valzah said he had seen a case of tobacco-poisoning in which the pupils were contracted in precisely the same manner as by opium. The presence of tobacco in the mouth attracted his attention, and on emptying the contents of the stomach a considerable quantity of tobacco was found in them. Under the use of zinc the patient made a prompt recovery.

Dr. P. Brynberg Porter mentioned the case of a young lady in the last stages of diabetes, in whom the administration of a small dose of morphia hypodermically for the relief of pain was followed by profound coma which ended in death within a few hours. The morphia, he thought, had only slightly hastened the impending catastrophe. The coma differed from that of opium-poisoning in that at no time was it possible to rouse the patient to the slightest degree of consciousness. The respirations, too, while rather slow, were not sufficiently so to have indicated danger in an ordinary case of opium narcotism; nor were the pupils contracted to a degree that would ordinarily mark such narcotism.

The Chairman, Dr. A. A. Smith, said it had fallen to his lot to have seen a considerable number of cases of opium-poisoning. He had been somewhat surprised to hear of the case mentioned by Dr. Andrew H. Smith, in which the respirations became reduced to only five in three minutes, notwithstanding which the patient recovered. Some twenty years ago, when he was an interne of Bellevue Hospital, he had seen a case in which the respirations were down to two per minute, and the patient recovered. This case had been reported, and he considered it quite remarkable. About the same time he had seen another case in regard to which there might well have been a mistake in diagnosis. The patient died with all the evidences of opium-poisoning, and at the autopsy a clot was found in the pons, situated directly in the centre, and nearly half an inch in length. It was the only case of the kind that he had ever met with, and he regretted that he had not preserved the notes of it. He remembered, however, that the respiration was of a stertorous character. Within two or three weeks after this last case he was called to see a patient in one of the wards at Bellevue, who had been an inmate of the hospital for quite a long time, suffering from rheumatic gout, and who had been given one-sixth of a grain of morphia for the relief of pain. Profound coma resulted from this, and, notwithstanding the most energetic treatment, he died at the end of thirty-six hours. The autopsy revealed a cirrhotic kidney, and he afterward learned that albumin had been found in the urine a month before. In this instance the pupils were markedly contracted, and the respirations were nine per minute. This was one of those cases met with from time to time in which opium produced disastrous results owing to the presence of kidney disease.

There were two other points to which he said he would like to call attention. The first was that in doubtful cases it was highly desirable that the urine should be examined for the presence of opium. This could be done quite easily, and it afforded an important aid to diagnosis. The second was in regard to contraction of the pupils. He had seen this present in cases of alcoholism where there was pachymeningitis on both sides and extending pretty well forward.

Correspondence.

THE HEALTH RESORTS ON THE RIVIERA.

(Continued from p. 306.)

III.—Cannes.

(From our Special Commissioner.)

CANNES IS ENGLISH—HYGIENIC WORKS—THE CLIMATE OF CANNES—AQUEDUCT—PREVAILING DISEASES AND THE QUESTION OF TYPHOID FEVER—THE GRAND HOTEL CALIFORNIE—THE PHYSICIANS OF CANNES—WINTER SEA-BATHING—A STUDY OF VITAL STATISTICS—PRESENT METHOD OF DRAINAGE—THE NEW SYSTEM OF SEWAGE DISPOSAL—INDICATIONS AND CONTRA-INDICATIONS—OUT-DOOR LIFE AND AMUSEMENTS—WALKING BETWEEN NICE AND CANNES—THE REUNION CLUB—THE NEW GOLD CLUB—THE NEW CASINO—BEAUTIFUL GARDENS AND RARE FLOWERS.

Cannes is about five hours by rail from Marseilles, It is really some forty minutes nearer to Paris than Nice, but having selected the latter place as my headquarters it seemed excusable to reverse the natural sequence of localities by first describing Nice. Moreover, Americans have generally preferred Nice to Cannes, and in my humble opinion Uncle Sam comes first.

I have dubbed this settlement the "Little England of Provence," for it is readily apparent that, in spite of her cosmopolitan pretensions, the Cannes of to day bears everywhere the indelible imprint of British life and manners.

Far from being a reproach to the city, this peculiarly English complexion constitutes, perhaps, her strongest claim on the attention of the *fin de siècle* health pilgrim. But real invalids of the old school, especially if they have already reached the uninteresting stage of utter helplessness, ought to go elsewhere in search of a winter sanitarium.

The native Cannois and the numerous band of British colonists are ever ready to extend a hospitable welcome to the visitor. But you are expected to live at Cannes, and not to die there.

It would be considered very bad form by the Committee of Censorious Cannes Dowagers to effect your demise within the limits of their territory. New arrivals will take the hint accordingly. To "see Cannes and die" will never do. But to see it and live, as long as you please, is permissible. And, indeed, life there extends numerous inducements to postpone the final relinquishment.

It is no exaggeration to say that many a despairing dyspeptic, many a hectic expectorator, many a confirmed insomniac has found at Cannes the solace that he never more had hoped to make his own on the better known side of eternity.

But, as already stated, Cannes is British, and probably will remain so. And why not? Did not an Englishman actually discover the new Cannes? Did not English money build her first fine villas, and build them after the English pattern? Are not her fairest gardens laid out on British ideas? And was it not one of England's most famous railroad men, Sir Edward Watkin, who gave the first strong impetus to that series of much-needed sanitary improvements which, when completed, will have fairly revolutionized the old town?

There is no doubt that the hygienic measures already inaugurated will, if carried to a successful issue, make Cannes a very well drained city. The new plans include

the construction of a closed aqueduct for the supply of purer drinking-water, a modern electric-light plant, better paved streets, and other works calculated to enhance the value of her natural advantages. No other Riviera resort will then excel, and few will equal, Cannes from a strictly sanitary point of view. Add to this the provision of wholesome amusement, which an enlightened municipality perceives the necessity of supplying, remember her scarcely-dwindling prestige as a centre of exclusive fashion, and Cannes must inevitably grow in public favor. The rather severely select British villa-residents will doubtless resent the further encroachments of a great and promiscuous public; but the native Cannois will hail with delight the dawn of a new era of prosperity. Once more the masses are destined to triumph over the classes. Naturally the sanitary works now in course of construction, and kindred matters relating to public health, specially engaged my attention during my recent stay at Cannes. The same willingness to extend every possible facility for personal inspection and study, already favorably commented on in connection with Nice, was also displayed by the authorities at Cannes. The Mayor himself, in company with the Engineer in-Chief, the British Vice-Consul, and other dignitaries, conducted me to every point likely to prove interesting or instructive.

Drs. Frank and de Valcourt (the latter the United States Consular agent) also gave me much of their valuable time and assistance in these tours of investigation. Many maps and plans were specially prepared for the MEDICAL RECORD Commissioner by M. Ferrand, of Paris, who is the engineer in full charge of the works of construction. It must be considered fortunate for the future welfare of Cannes that her present municipal authorities are so fully alive to the necessity of conforming to Anglo-American standards of efficacy in matters of drainage and domestic hygiene.

The work already finished was carefully examined by me and is an earnest that everything will be well done. The importance of this point is not to be underestimated, for it is an open secret that the Riviera boasts of certain improvements that do not improve, just as there is a dangerous class of individuals who always "positively know" things that are not so.

On the peculiarly favorable climatic conditions of every Riviera station local enthusiasts have written voluminous verbiage. Common sense will steer one clear of all this tangling mass of weedy chaff.

The Riviera climate is, in general, stimulating, warm, and dry. Plenty of exhilarating sunshine and plenty of puffy wind are its chief characteristics. Sudden and rather violent changes in temperature are an almost daily occurrence. One spot may be a little more sheltered than another, one may be a little more inland than the next, one may even average up several degrees warmer than the preceding one. But all these hair-splitting distinctions make no essential difference.

When you have waded through a bewildering lot of statistical records, when you have painfully pored over a multitude of tables covering every conceivable meteorological detail, such as barometrical, thermometrical, actinometrical, pluviometrical, psychometrical, anemometrical, and what-not-metrical observations—when you have conscientously performed this trying task, the only tangible result is that it has made your head swim, and what may be left of your brains reel. For the speedy development of hardened climatic cranks a course of Riviera health-resort literature may be confidently recommended.

The climate of Cannes is a Riviera climate. *Voilà tout.*

Cannes is not outside Provence. And of all Provence it has been well said that there is little level land in the department. One range of hills rises beyond and behind the other: first the wooded hillocks, where the hyacinths lurk; then the slopes, so gay with heath and myrtle and arbutus and prickly broom, next the bare limestone ledges, and last of all the peaks where the snow-wreaths and glaciers hang, and which, as they meet the clouds, assume the hues and imitate all the aspects of cloudland. This description fits Cannes, as it would fit Nice or Hyères, or almost any of the winter stations along the French Riviera.

The mistral blows at Cannes when it listeth, in spite of all alleged protecting mountains. To the uninitiated "mistral student" it is rather perplexing to learn from local Riviera authorities that this blighting wind touches with terror every point along the littoral, except their own particular place. Such purely local exemption is again quite unknown outside the narrow limits of the particular resort in question. As a matter of fact, it may be safely stated, on unbiased outside testimony, that the mistral gently blows its dusty breath wherever it suits His Windy Majesty to do so.

Your geography will show you that the Rhone valley somewhat resembles a funnel, collecting the cold air from the north and concentrating it upon the overheated southern shorelands. There you have your mistral. Forego teasing your brains with more complicated explanations. The mistral may not mind it, but you probably would. One who evidently knows thus compliments the wind that lingers long in all Provencal narratives: "There used to be an old saying that

> Parliament, Mistral, and Durance
> Were the three scourges of Provence,

and no doubt the third day of a howling mistral is a trial to most people. The cypress hedges are bent down almost to the earth, which they are unable to protect; every window shakes, and all night long, across every bar and through every keyhole, this wild wind discourses. Its medley of raving, whining, and bellowing is very annoying, and as for the dust that is everywhere! It is in your eyes and in your hair, in your dress, in your ink-bottle, and between the leaves of your books. Meantime your pens split (goose-quills), your shutters crack, your hat flies away, and your hair turns gray; but your spirits are unaccountably buoyant, and the sky, from side to side, is of the palest blue. The sea, on the other hand, looks dark; there is a fringe of surf round the shore; the horizon line is a broken one, and the water is of every shade imaginable, from a deep hyacinth-like purple to a greenish turquoise. This much-abused mistral has been christened by the knowing peasantry '*lou bon vent.*' It is really a public benefactor, for this 'prince of the power' of the air clears the country from damp and miasma, and is, therefore, one of the great sanitary features of the seaboard."

But besides the mistral there is a choice assortment of other winds at Cannes, as well as elsewhere along the Riviera. They are not inexperienced spring zephyrs either, but able-bodied, whole-souled fellows, who have long since attained their majority.

There is that rather frolicsome south-southeast breeze, called the *sirocco.* Connoisseurs like it dry, but usually get it dampish. It comes over from Africa, and when you have finished wrestling with it you are generally in a mood to concede its open virtues.

Then you have the *greco.* He is a wayback northerner of brazen cheek. He discovers you in hiding and unceremoniously presses his claims to immediate recognition upon you. Nevertheless, he is a cold one, and when he leaves, you wish him godspeed and forget to add "au revoir." In the heat of summer he loses his vim and degenerates into a mere land breeze, springing up every evening and lazily lulling seaward.

The *tramontano* is a pure-bred "nor'easter." When he condescends to climb over the protecting range of mountains, he is rewarded for his pains by getting the cold shoulder from everybody. This base ingratitude makes him rather coy, and he is but a rare visitor in these southern lands.

The above are the main attractions of the Riviera in the wind line. There are yet a few side-shows. But of these only the *vent Est* (*levante*), with nothing characteristic about it except its weak blow, and the *vent Sud-Est*

(*marin*) require mention. The latter is a Genoese foreigner of tediously rainy proclivities.

But enough of wind and winds. Let us try something more substantial. Water might do to start it on, though prohibition in France is not very popular.

The drinking-water now supplied to the residents of Cannes is by no means what it should be. To begin with, its very source is not above suspicion. A mountain stream, La Siagne, is tapped at the little village of St. Césaire, two hundred and thirty-five metres above the level of the sea, and then for miles an open canal carries the water to certain reservoirs. The latter serve as tanks for its final distribution.

The intermediate process of filtration may help to separate some of the grosser inorganic impurities of the water, but there is no kind of safeguard against possible organic contamination. Even pollution by sewage may happen along the course of this canal. The Cannes drinking water should, therefore, be thoroughly boiled before being taken.

It is satisfactory to know, however, that the plans for a new closed aqueduct are already in the hands of the Mayor. Work is to be begun this spring, and pushed forward with all possible speed. The authorities should not omit to exercise due vigilance in securing an unimpeachable source of supply. River water is not desirable. They ought surely to succeed in finding something very much better than the Siagne stream. Tap a mountain, but do not suck a river dry when you want pure drinking-water.

Mr. Ginner, who has kindly supplied the analysis states: "It is, however, my duty to say that on another occasion I found more than this. But even then it did not reach the maximum beyond which good water should never pass; and further, the analysis was performed soon after or during the heavy autumn rains, while the cistern from which the sample was taken, although at the time supposed to be in a fairly good sanitary condition, was afterward found not to have been so.

"Some five- or six-and-twenty years ago, nearly all the important water supplies of France were examined for comparison. I believe I am correct in stating that the Cannes water came out third on the list of purity and excellence.

"My own experience and that of my colleague, M. Tajasque, lead us to think this high degree of quality is still maintained."

The opinion of these gentlemen is, of course, entitled to consideration. But the fact remains that the Cannes drinking-water is carried to the town in open canals, and what that means every physician knows. The water may be safe to-day and highly dangerous to health and life to morrow. Open canal water should be invariably boiled before being taken. No exception can be made in favor of Cannes, no matter what the authorities may say.

There are no wells at Cannes whose polluted waters could poison unsuspecting travellers. But even well-water could scarcely be more unsafe than the river-water now supplied for domestic purposes.

Barring the ubiquitous and deadly influenza, I was unable to discover any prevailing disorders at Cannes. A study of mortality also shows this absence of endemic maladies. Still, it is not denied that people are apt to catch severe colds at Cannes; that sensitive throats and noses are sometimes made much worse there; and that the irritating dust may prove troublesome to weakened eyes and lids. Many of the streets are poorly, or not at all, paved, and dust is everywhere. When it rains the dust puts in its fine work as tenacious mud. As for typhoid fever, Cannes has been quite unjustly made to shoulder the blame for some imported cases, the number of which has, in addition, been greatly magnified by certain well-meaning neighbors of mildly envious disposition. Such things happen at popular summer resorts. Why should they be foreign to competing winter stations?

Here are the facts. In the year 1881 Cannes was visited by an outbreak of typhoid fever. There were large works going on at the time. One land company alone employed some five thousand Piedmontese laborers. The disease, encouraged by the filthy habits of these ditch-sleeping workmen, spread to the better sections of Cannes. In the Anglo-American colony about twenty cases occurred. There were also some deaths. Yet since that time only sporadic cases have appeared. A grandson of Sir Edward Watkin was prostrated with the disease at the Hotel Californie in 1889. This case, although not terminating fatally, gave rise to a great deal of adverse comment. A thorough overhauling of the Californie, as well as other hotels, was one beneficial consequence of the agitation which followed.

To show the wretched condition of things then existing, it is only necessary to quote a few lines from the official report forwarded to me at the request of Sir Edward Watkin, by Mr. Fred C. Lynde, the well-known sanitary engineer of Manchester. Among other things Mr. Lynde says: "On arriving at the Cannes Railway Station, a most disgusting smell arises from the open drain passing near to."

In regard to the Grand Hotel Californie, as it was in February, 1889, the following quotation speaks for itself:

"The defects mentioned in this report may be summarized as follows: The smell arising from the putrid animal and vegetable matter deposited near to the hotel; the foul condition of the bed of the stream, situated on each side of the garden; the evils arising from the large unventilated cesspool, situated under the tennis court, by the escape of foul gas therefrom; the escape of noxious gas into the hotel through the defective water-closets and connections; the danger arising from the unused water-closet on the ground floor, which must render the atmosphere of the hotel very vitiated during the night, when all outside doors and windows are closed; the leakage of gas from the defective joints of the soil-pipe at the west end of the building, which emits gas near to the windows; the ventilation pipes, terminating close to the windows, thereby discharging foul gas into the building; the soil-pipe of the water-closets at the east end of the building being in a leaking condition, and terminating with an open end within the roof of the hotel, thus discharging gas into the roof; the excessive size of the soil-pipes; the drains being situated under the kitchen floor, and terminating in obsolete traps; the waste-pipes not being properly disconnected from the drains in some instances, nor trapped in an effectual manner; the ventilating grids connected with the soil-pipes terminating in the main walls of the building; the filter being a possible source of contamination to the water; the housemaids' slop-sinks allowing the slops to overflow; accumulation of water and grease under the hydraulic lift; accumulation of manure-water at the back and side of the stable and near to the hotel.

"Under the above statement of facts, which I have carefully verified as far as possible, and which cannot in any sense be controverted, my opinion is that the hotel is not in a sanitary condition."

As an illustration of the good accomplished by Sir Edward's energetic efforts, it may be mentioned that on a thorough inspection of the hotel in question, I found that, excepting some insignificant details, every one of these grave defects had been thoroughly remedied. It is true, the method of filtration of the drinking water is not preventive of possible infection. But in a general way the hotel may now be considered safe and sanitary. In particular the dangerous cesspool, situated under the tennis court, has been entirely cut off, and is now empty. The system of drainage is perfect, having been constructed under the personal supervision of Mr. Russell, of Cannes, the able representative of the London firm of Best & Co.

It seems advisable, in this connection, to explain the truly great importance of the typhoid fever question, as well as zymotic disease in general, to foreign visitors at any given health resort.

When the stranger makes anxious inquiries concerning this point, he is usually put off with the statement that everything is all right. For, he is told, the natives have lived in such and such a locality, they have taken the local water, they have lived in sewage-contaminated dwellings from time immemorial without detriment to their health. Right here you have the solution of the whole problem. Accustomed from infancy to all sorts of impurities, the native population is fully protected by an involuntary course of repeated inoculation with attenuated poisons. But a foreigner is not thus protected.

The very thing that has conferred immunity on the native, may easily cause the speedy death of the foreigner. It is the old story of what is one man's meat being another man's poison. And now let the natives cease their futile attempts to throw ridicule on over-anxious foreigners. The stranger is right every time, and the local enthusiast is just as often wrong. He may sneer at the timidity and alleged ignorance of the newcomer. But the sneer shows only his hopeless stupidity or criminal malevolence.

(To be continued.)

OBSTETRICAL SCIENCE AND ARCHITECTURE.

To the Editor of the Medical Record.

Sir: In the article entitled "Obstetrical Science and Architecture," which appeared in the last number of your journal, I find a misstatement with reference to the Sloane Maternity Hospital. The article states that there were 3 deaths in 1,000 consecutive cases delivered in this hospital, whereas, really, there were 6 deaths in the first 1,000 cases and 5 deaths in the last 800 cases, making a total of 11 deaths in 1,800 consecutive cases.

A brief explanation of these 11 fatal cases may be of interest: One death was due to rupture of the uterus and ante-partum hemorrhage. This patient was brought in by ambulance after being in labor for three days, during which time she had bled profusely. She died twenty minutes after admission, completely exsanguinated. Autopsy revealed a ruptured uterus. Two deaths were due to placenta prævia. One of these, an ambulance case, was moribund on admission. The other was a case of premature labor, with central implantation of the placenta; death was due to hemorrhage, most of which occurred before delivery could be accomplished. One death was due to chronic Bright's disease, not to labor. One death was due to eclampsia, after eighteen convulsions. One death was due to septicæmia. This patient was admitted in the second stage of labor, in a most filthy condition; she had been attended by a midwife, and was undoubtedly infected before she entered the hospital.

Of the 5 deaths in the last 800 cases, 2 were due to eclampsia. Both of these were moribund when brought to the hospital. One death was due to exhaustion and necrosis of uterus. This patient was brought in after having been in labor for five days, and after several attempts had been made to deliver with forceps a full-term head through a pelvis whose true conjugate at the brim measured 6.8 ctm.; autopsy showed an area of necrosis where head had pressed the uterus against the sacral promontory. One death was due to chronic Bright's disease and alcoholism; this patient had been on a two weeks' debauch and was delirious when admitted in labor; soon after delivery she sank into coma and died. One death was due to pneumonia (from prolonged exposure to cold), contracted before admission to hospital.

An analysis of these cases shows that five were moribund on admission; that three died from causes outside of the department of obstetrics; and that the only fatal case of septicæmia which has occurred here originated outside of the hospital.

Considering that over one-half of all our cases are admitted already in labor; that many students and pupil-nurses have the privilege of making examinations per vaginam; and that often "desperate cases" are sent in after midwives or physicians have failed to deliver, I think that the statistics of this hospital will compare favorably with other statistics in the same line.

"Architecture and elaborate appliances" may not be "absolutely essential to successful work," but they are certainly an important factor in obtaining the best results, and in the course of time they will aid in raising the already high standard of modern obstetrics.

Ervin A. Tucker, M.D.,
Resident Obstetrician.

Sloane Maternity Hospital, New York,
March 21, 1892.

LEPROSY AND A FISH DIET.

To the Editor of the Medical Record.

Sir: Dr. L. Duncan Bulkley, in stating his conclusions as to the non-contagiousness of leprosy, says (Medical Record, March 5th):

"4. There is strong reason to suspect that it may first be introduced into the system by the way of food, and fish is the most likely of all substances to furnish and convey the poison."

In his original paper (Medical Record, January 23d), he makes this view even more prominent. I am aware that this theory of Hutchinson's has gained wide acceptance, but it is generally discredited by physicians in Hawaii, for what seems to me a very strong reason.

From time immemorial, the staple food of the native Hawaiians had been fish, and principally raw fish. Until about 1860 there is no history nor tradition of the existence of leprosy among them. At about this date it appeared, and at the time of its appearance, white people had been among them for forty years, and their food and methods of living had changed greatly. Canned foods, fresh meat, and vegetables had been so widely introduced, that the use of fish, and especially raw fish, had been enormously decreased, and could not be considered as a prominent feature of their diet.

At the present day, while consuming no remarkable amount of sea-food, one Kanaka out of every thirty is a leper. All fish, no leprosy; little fish, much leprosy. This has been the history in Hawaii.

Yours very truly,

Augustin A. Crane, M.D.,
Recently Government Physician in Hawaii.

New Instruments.

AN IMPROVED CLOVER'S CRUTCH.

By FRANK LeMOYNE HUPP, M.D.,
Wheeling, W. Va.,
Late House Surgeon to the Presbyterian Hospital, New York.

In Volume XXII., December 9, 1882, of the Medical Record, there appears a letter from Dr. George A. Peters on "A Substitute for the Wrist and Ankle Band." This instrument, popularly known as Clover's crutch, is used perhaps in every large hospital in this country for all perineal surgery. While the contrivance is decidedly ingenious and was a vast improvement over the old anklets and wristlets of Pritchard, it has many faults.

After giving ether to upward of fifty patients wearing this crutch and noting at the time of operation the engorged venous trunks of the neck and head, the embarrassed breathing, and subsequently the distressing headaches, I thought an improved instrument might be made.

The accompanying illustration explains itself. The sliding iron rod, the padded leather straps, which buckle around the leg below the knee are the same as those in the instrument introduced by Dr. Peters.

Instead of carrying the padded strap behind the patient's neck the apparatus I wish to suggest as a substitute has a pair of buckles on either side, at the junction of the connecting rod with the leg straps. Attached to

these buckles there are four straps; two coming over the shoulders in the direction and position of suspender straps to be fastened to the two upper buckles; and two com-

ing up from the side of the body to be secured by the two lower buckles.

This instrument has been used for five months in the Presbyterian Hospital, New York, and it is found that it not only does away with the neck pressure, and the distressing symptoms arising therefrom, but the straps of one side antagonize those of the other, thus keeping the patient quietly on his back without any rolling to either side.

This instrument is made by Mr. Ford, of the W. F. Ford, Surgical Instrument Co. It is easily and quickly applied.

1212 Chapline Street.

A DOUBLE NASAL SPRAY AND VAPORIZER.[1]

By J. BLAKE WHITE, M.D.,

Physician to City Hospital, Blackwell's Island, New York.

The value of inhalants, especially in the treatment of chronic catarrhal conditions affecting the air-passages, is generally admitted. Everyone who is much in the habit of employing this mode of practice, must have noticed how small a proportion of any medication used appears to attain a distance sufficient within the air-passages to accomplish the good intended.

It was doubtless in the presence of such an experience as I have named that Dr. John T. Gray wrote: "I am confident that, if means could be devised whereby remedial agents could be applied to all the ramifications of the lungs, including terminal cells, a great step would be taken toward the cure of consumption." Such prospect certainly appears beyond all expectation. The vain hope of ever being able to diffuse even the most attenuated vapor, whether medicated or not, to the liberal extent coveted by the learned authority, need never be indulged, since, should even the many resisting sentinels about the throat be passed without a challenge, the antagonism of residual air, ever present in the lungs, would oppose a determined barrier to the free entrance of foreign matter beyond a limit bounded by the elastic property of air. The fact, however, that but a limited quantity of any medicated agent forced into the air-passages by means of an atomizer, rarely exceeds in range beyond the primary bronchi, should never deter us from essaying the method of treatment whenever indicated, as we may confidently expect some aid from force of gravitation to operate subsequently in our behalf, which would diffuse the influence of our remedy after introduction to areas unapproachable by any other process.

Recognizing the fact that the administration of medicaments by inhalation in the ordinary way is invariably opposed by active elements of resistance about and beyond the throat, I have long since abandoned this course of proceeding, and I now desire to lead in the direction of another recourse which promises more satisfactory results.

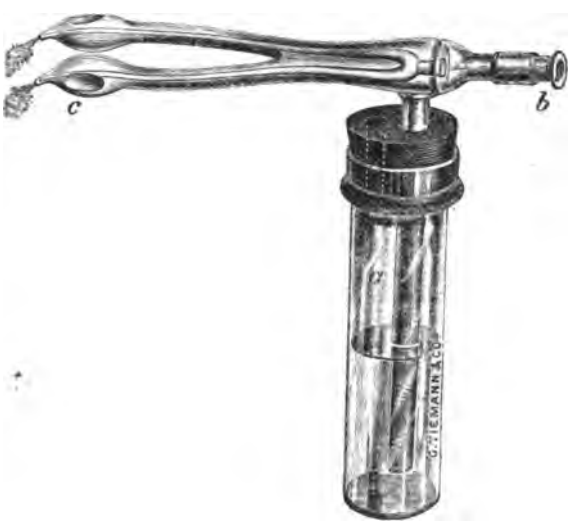
The nasal passage is not only the natural respiratory tract, but the most direct route to the lungs. Its mucous surface is specially adapted to the performance of the vital act of respiration, and its comparative insensitiveness to manipulation seems to single it out as the proper avenue through which to address remedies to the respiratory passages.

Experience commonly demonstrates that medicated agents directed to the air-passages by the mouth excite gagging and even cough, which, when administered through the nostrils, the sensitive fauces having been thus eluded, would give rise to no marked degree of discomfort.

The "Besseler Globe Inhaler," and the "Evans Vaporizer" are indeed excellent additions to the armamentarium of the lung and throat specialist. Their utility, however, is abridged, owing to the necessity the operator is under with their use to apply his medications by way of the mouth.

The vapor to be used, if employed sufficiently rich in medical virtues, is apt to excite great irritation about the fauces, followed by persistent coughing. In addition to this, the very necessary degree of force which is demanded to project the medicament beyond the fauces is apt to occasion involuntary closure of the glottis, and thus to preclude entrance into the lungs of a sufficient proportion of the medicated agents to effect the measure of good required.

In order, therefore, to facilitate my peculiar method of throat and lung medication, I have devised, and I believe perfected, a double-tubed nasal spray atomizer, the model of which I herewith submit. An elaborate description is



wholly unnecessary, as the above woodcut will show its special features of advantage. When attached, as it is intended it should be, to a condenser, the vapor is forced equally and simultaneously through both tubes directly into the nose, aided by a full and deep inspiration.

The admission of a small modicum of atmospheric air is, of course, necessary to promote the entrance of the medicated vapor into the deeper air-passages, and this is provided for by longitudinal grooves about the bulbous extremity of each tube, indicated at the letter *c*.

[1] Read before the Academy of Medicine, Section on Laryngology and Rhinology, November 25, 1891.

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Original Articles.

INTESTINAL ANASTOMOSIS AND SUTURING.

BY ROBERT ABBE, M.D.,

ATTENDING SURGEON TO ST. LUKE'S HOSPITAL; PROFESSOR OF SURGERY TO POST-GRADUATE SCHOOL OF NEW YORK.

THE following cases of recent intestinal surgery form a legitimate basis for practical observations on the comparative merits of various operative measures in this important line of work. There has been so much in recent literature of experimental work upon dogs, from which conclusions have been drawn perhaps too hastily, that recorded cases of practical work may now be considered of the utmost value in drawing legitimate conclusions.

CASE I. *Intractable Fecal Fistula—Resection of Two Inches of the Ileum—Lateral Anastomosis—Recovery.*—C. B——, a fine, large, healthy Swedish girl, twenty-four years of age, was taken, soon after coming to this country, with severe dysmenorrhœal pains, for which she was treated by gynecologists for uterine displacement during a year and a half before she came under the care of Dr. Currier, of this city, who by laparotomy sutured the uterus to the anterior abdominal wall. Relief not being accomplished, both ovaries were removed later. They were in condition of cystic and papillomatous hypertrophy, one being nearly as large as an egg.

A large amount of pus was evacuated from the pelvis three weeks later, and a rubber drainage tube inserted. The discharge was very free, and intestinal contents were found in it after a little while. A long rubber drainage-tube was inserted, but disappeared one day into the abdomen—being sucked in by peristalsis. Dr. Currier again did laparotomy and found the tube in the intestine, some distance from the fistula. He incised the bowel, removed the tube, and sutured the incision. The adjacent adherent bowel was loosened, but the fistula was left for nature to heal. Some weeks later she had arrived at a deplorable state, reduced in flesh and suffering constant pain from the surface of the abdomen, whose skin was excoriated for some inches about the fistula. On examination a fistulous opening was seen in the median laparotomy scar—less than two inches above the pubis. This admitted the index-finger to pass its entire length into the bowel. Through the opening there was a constant flow of turbid intestinal fluid, sometimes containing bile, and after eating, bringing up with it considerable portions of partly digested food. The peristalsis caused an intermittent welling out of this acrid secretion, which had digested the superficial layer of the skin of the abdomen, so as to produce a red, excoriated, and extremely painful surface over the entire lower abdomen. Ordinary strapping and plugging were ineffectual in holding back the fluid. This condition added misery to the patient's increasing emaciation, and led her to despair.

The nature of the secretion left no doubt that the portion of destroyed intestine was high up in the ileum. The injury had apparently taken place during separation of adherent bowel at the former operation, and a portion had sloughed.

A few days were allowed for the excoriation of the abdomen to heal, by plugging effectually with a section of rubber ball, to the centre of which a string was attached, and fastened to a roll of gauze laid on the abdomen across the fistula, while the rubber pad was slipped into the bowel and drawn tightly up against its inner surface. This method I have found most effectual in closing fecal fistulæ temporarily. It worked well here, and in a few days the abdomen was nearly healed. One day it was tied too loosely and peristalsis swept it quickly into the bowel, and it could not be withdrawn, until at operation it was found nearly a foot away and drawn back by the string, which was caught at the wound.

On May 29, 1891, I did a laparotomy and found a loop of small intestine, quite high up, bound tightly to the abdominal wall around the fistula, and to neighboring intestine also. Careful dissection showed that two-thirds of the lumen of the gut at the site of the fistula had been destroyed, and resection was the only resort to restore it. I therefore dissected the entire mass of adherent bowel from the abdominal wall and from the bladder, to which it was intimately adherent, so that in the dissection a small opening was torn into the latter. This I immediately sewed up and tested by forcing Thiersch's solution into the bladder to prove its perfect closure.

The matted bowels were then separated from each other. In doing so I found a silk pedicle ligature at the site of one ovary, with some drop or two of pus about it. This I cleaned away. Two inches of the injured gut were then resected, including the fistula. Each severed end was inverted and closed by a double row of continuous fine black silk suture. The mesentery having been sufficiently divided, there was no trouble in drawing the ends past each other so as to overlap for six inches. In this position they were sutured together by a double row of continuous silk suture, and an incision four inches long made in each opposing bowel; a quick overhand, running suture of the cut edges, and the continuation of the double row of sutures about the opening completed the anastomosis. The parts were now washed with boiled water and replaced. The abdomen was closed without drainage. Primary union occurred. Convalescence was uninterrupted. The temperature remained below 100° F. A seidlitz powder was given daily after the second day. On the third a large movement occurred, repeated daily. Her appetite became enormous, and flesh was rapidly gained.

She is now in perfect health and the abdominal scar is strong. (The patient was exhibited.)

CASE II. *Double Intestinal Obstruction—Resection of Cancer of Sigmoid Flexure—Lateral Anastomosis—Complete Recovery.*—Miss E. R——, aged forty-one, was referred to me, April 5, 1891, by Dr. W. H. Draper, with the following history of obstruction: Ten days previously she had observed increasing constipation, and began to take physic without effect for four days, when her physician was called, who, after exhausting all expedients without more effect than emptying the lower bowel of scybali, diagnosed obstruction requiring surgical interference. She was unable to void flatus per anum, but had considerable in the intestine. She had little abdominal pain. Four days previous to her admission to St. Luke's Hospital she had stercoraceous vomiting, as reported by her physician, which was repeated on the following day.

Examination showed a distended abdomen with some tympanites, though dull in the right half and across the upper abdomen. No certain indication could be found of the seat of obstruction. After consultation I decided to explore the left ileo-hypogastric region through an incision as for inguinal colotomy, and make a temporary relief if found desirable, inasmuch as she was not in good

condition to do any extensive surgical procedure. I was surprised to find the descending colon empty, and the ascending and transverse colon enormously distended. The distention terminated in an abrupt rounded bowel in the left hypochondrium. Without searching for the cause of the obstruction under these difficulties, I decided to make a temporary right inguinal colotomy and stitch the caput coli in the wound. This I did, and on the following day opened the caput coli and evacuated a great accumulation. She made a quick convalescence, and on the ninth day I did a laparotomy on the outer side of the left rectus, at its upper part, in order to relieve the supposed obstruction of the splenic flexure of the colon found previously. On reaching the colon it was found sound and empty from the caput coli to the sigmoid flexure. Search for the cause of obstruction revealed an anomalous double meso-colon from the splenic flexure downward, a finger's-length on the outer side of the normal one, forming at its lower edge an inverted pocket into which the colon had formed a hernia, which had been spontaneously corrected after the bowel had been evacuated by colotomy. This, it was thought, had completely explained the former trouble, and the abdomen was closed. Subsequent efforts, however, failed to bring fecal evacuations from the colotomy wound to the rectum, nor would colored fluid injections find their way in the opposite direction. The distended rectum could be made to hold but a small pint. No tumor could be felt by palpation.

May 13, 1891.—She was again subjected to search of the left iliac region through a wound on outer side of the rectus, low down. The empty descending colon was traced down to a very small, knotty cylindrical stricture of malignant origin, which was found, on distending the rectum, to allow no fluid to pass. It was located twelve inches above the anus. Resection of this, and three-quarters of an inch of sound bowel on either end, with a portion of the mesentery adjacent, was done with considerable hemorrhage, readily controlled. The ends of the divided bowel were completely closed by continuous suture, and the two free parts overlapped to their utmost, which proved to be four inches. After suturing them in position, opposing incisions were made in the bowel three inches long. This was carefully measured in view of future estimate of stenosis. The anastomosis was quickly completed and the cleansed parts dropped back. The time of the anastomosis was forty minutes, but inasmuch as the entire operation, including search, separation of old adhesions, resection, etc., with concluding closure of the abdominal wall, occupied over three hours, I am free to confess that, to my mind, it makes little or no difference whether the time given to the act of uniting the bowel was thirty minutes or forty. It was in this case much more important that the union should be absolutely perfect. The use of artificial rings and plates was in my mind throughout the operation, and I had several sizes and varieties prepared and at hand, and could but feel that I would not only have been hampered at every step of suturing around them, but would have been wholly uncertain of exact apposition by any method other than the simple suturing, which worked like a charm in this case, for the parts could not be brought out of the wound. The patient endured the operation very well. On each day she passed flatus. On the second day the colotomy wound was plugged. On the third day a large-formed movement passed per rectum, and from that day her convalescence was uninterrupted. Daily evacuations occurred, either from medicine or naturally. The colotomy wound closed to a sinus which leaked a little, but was perfectly controlled by a strap.

During the summer she got back her flesh and health, and continued to have normal movements, enjoying a happy summer in the country. Six months after operation she came to me, looking in perfect health, but complaining of fulness in the pelvis. Examination revealed a small growth of the right ovary, the side opposite to the diseased sigmoid. In one month this had undergone a very rapid growth and was as large as a child's head. For my accommodation, Dr. Robert F. Weir very kindly took the patient into the New York Hospital and removed a large carcinomatous right ovary, which had formed many adhesions, and grown intimately to neighboring parts; but she did not recover.

I had the satisfaction of examining the anastomosed parts of the colon *in situ* during this operation, and found absolute freedom from cancer anywhere about that side of the abdomen, except a speck of suspicious growth, the size of a mustard-seed, in the wall of the bowel, two inches above the anastomosis. This specimen, removed from the patient after death, and prepared by Dr. Ferguson, pathologist of the New York Hospital, I have the satisfaction of showing you now. The restoration of the lumen of the bowel is perfect.

The oval aperture between the two portions is, as you see, large enough to admit two fingers side by side up to the first joint, and ably demonstrates the perfect union and freedom of a proper channel produced thereby of a lateral anastomosis by suture.

With regard to the possibility of an end-to-end suture of the bowel in this case, I would say that I had here to deal with bowel of two unequal diameters, as happens so commonly in stricture with dilatation above it; and after resection of the diseased part and its infiltrated mesentery I feared to unite the ill-matched ends.

CASE III. *Intestinal Obstruction from Incarcerated Hernia—Resection—Lateral Anastomosis — Recovery.*—P——, aged thirty five, Plattsburg. Five years ago was caught between two cars and sustained a crush of the body that caused a traumatic hernia of the abdominal wall, just below the ribs, on the outer side of the left rectus muscle. This hernial tumor was as large as a flattened goose egg. and gave him no serious trouble. Three weeks ago he had an injury of the part by the thrust of a stick, and began to have symptoms of obstruction—loss of appetite, some vomiting, pain in the upper part of the abdomen but not in the hernia, constipation, loss of flesh, and jaundice.

Examination showed a flaccid hernial mass at the side described, and some dulness of the hypochondrium.

December 28, 1891, I operated, making first a median incision above the navel to introduce two fingers for exploration. The fingers entered a sharp-edged hernial pouch, two inches in vertical diameter at the site mentioned, to the edges of which omentum was adherent. A vertical incision was now made directly over the hernia, and a loop of small intestine found embedded by firm old adhesions in the tissues of the abdominal wall. This was with much difficulty dissected out; at its upper part it was so matted to the sharp edge of the ring that a rent occurred during its removal. Its complete removal being accomplished, and sound intestine being drawn out of the abdomen, it was found that the intestine, under pressure, where the rent occurred, was atrophied to a fibrous tube, the size of one's little finger, for an inch and a half, and without a mesentery to nourish it. The intestine above it was the jejunum, thickened and distended by chronic obstruction. The damaged portion, about an inch and a half, was therefore resected, and the ends of the sound gut sutured. Protecting the abdominal cavity, and drawing the two adjacent portions of sound intestine out of the abdomen, they proved to be of wholly unequal size and not adapted to end-to end anastomosis. I therefore laid their two ends together and did a lateral anastomosis, after the manner followed in other cases, using sutures only of fine black silk around an incision of full four inches in each bowel. The entire anastomosis occupied thirty-six minutes, and was most satisfactory. The parts were washed in hot water and replaced, and the abdominal wounds closed without drainage. Uninterrupted convalescence occurred. The bowels moved by enema on the third day, and afterward by salines. The sulphate of magnesia, a drachm, repeated once or twice.

To-night, the fourteenth day, the man presents himself for your inspection in restored health. The jaundice disappeared directly after operation, and I can only explain it by believing the over-distended duodenum allowed the bile to be retained.

CASE IV. *Resection of Six Inches of the Rectum by Kraske's Method — Circular Suture — Recovery.* — M. K——, aged twenty-nine. One year and a half ago this patient began to notice growing constipation, requiring medicine. Later she had occasional colicky pains in the abdomen, with nausea and vomiting, progressive weakness, with bowel relief only in watery movements through medicine, and increasing nausea led her to seek advice.

February 14, 1891, when I first saw her, she had had no movement for a month. She was in a serious condition of exhaustion from vomiting, pain, and distention. She had retained no food for a number of days, and was very thirsty. Her stomach was twice washed out, and a pint of warm milk injected, which was retained but a few hours. A little gas and considerable blood passed the bowel. The abdomen was tympanitic and the colon distended.

Examination per rectum revealed an empty lower rectum, but at the extreme point reached by my finger, which is rather a long one, a cancerous growth could be detected as large at its lower end as an egg. This could also be felt above the pubis by palpation.

February 15th.—Left inguinal colotomy was done, and immediately relief afforded to the distended colon.

March 13th.—The patient had made a very excellent recovery, since nourishment had been well retained, and evacuations had been thorough through the colotomy. To-day, with the assistance of Drs. Murray and Curtis, I removed the lower portion of the sacrum, through an eight-inch vertical incision in the median line, from the base of the sacrum nearly to the anal margin. The portion of the rectum uncovered was quite sound, but was dissected out so as to drag it down, and with it the cancerous mass, which was six inches from the anus. At that part the attachment to the pelvis was firm, and it was only after entering two fingers into the peritoneal cavity anterior to the rectum to handle it the better, and after ligaturing and cutting free the meso rectum, that the mass was brought down into the wound. This being done, it was found easy enough to drag down more of the rectum. This was done, and sound gut above the disease was readily brought down to meet the sound bowel above the anus, where it was cut off, because the intermediate rectum was much bruised in the handling. The peritoneal cavity was closed by a few sutures, uniting it to the anterior rectal wall, and the cut edges of the bowel united by a double row of sutures of fine catgut. There was no tension on these edges, owing to the free drawing down of the sigmoid flexure, and it was evident I could have resected more of the latter if it had been needed. The gut was completely closed and laid back in the pelvis. A light packing of iodoform gauze was laid upon it, and the superficial wound closed. The operation throughout had been comparatively free from hemorrhage.

On the second day fecal matter was evacuated per anum. On the third day the posterior wound was opened on account of a little foul pus, and a small opening was found to have taken place between the posterior sutures of the gut. When she left the hospital some weeks after, in good condition, there was still a small fistula in the centre of the sacral cicatrix, but an adhesive strap controlled the discharge. The rectal movements were perfect. During the summer she became robust and well, attending to her household duties, and having comfortable daily evacuation. The sacral fistula healed entirely.

In November, however, the old symptoms recurred, and when I saw her, nine months after the Kraske resection, there was a recurrence of the malignant growth in the pelvis about the cicatrix. This underwent a rather rapid development, though the patient looked well and continued about her home duties. The obstruction now became troublesome, and the sacral cicatrix showed cancer infiltration, and discharged fæces through a reopening of the fistula.

The left inguinal colotomy has required reopening, and she will undoubtedly have her life prolonged somewhat thereby, from arresting the fecal irritation of the rectum.

CASE V. *Strangulated Hernia—Gangrenous Gut incision—Longitudinal Suture—Recovery.* — On May 13, 1891, I was called by Dr. Strong, of Long Island City, to see Mrs. K. C——, an elderly lady of fifty-five years, who had had pain and vomiting from an incarcerated right inguinal hernia for ten days. During the three latter days she had had grave changes in symptoms, with vomiting almost constantly, and for one day of a most offensive yellow fluid fecal matter. She had fallen into the usual shocked and apathetic state, with foul tongue and breath, thirst, weak pulse, 126, and inability to retain anything. The abdomen was distended, no movement had taken place for ten days. I operated at once under ether. The hernial sac was the size of a hen's egg, thickened, filled with fluid and a knuckle of very dark adherent gut. On being released and drawn down, a circle of gangrene less than a half-inch in diameter was seen where the ring had pressed upon it. It was so far sloughed as to be just ready to fall out. It was evident that either resection or artificial anus, or some form of suturing would be needed to repair it. I chose the suture. If I had sutured the bowel surface on opposite sides of this slough one way, it would have narrowed the lumen to such a degree as to cause stricture. If in the opposite way, it would have made an elbow that would have made obstruction. I therefore made a longitudinal cut of the bowel-wall, two inches long, with the slough as its centre, and sutured the edges of the cut in such a way as to make an elbowed bend of the gut with the cut splitting up the flexure crease. Two rows of silk sutures were placed round this cut and the parts washed and dropped back. The sac of the hernia was dissected out and the ring closed. Primary union occurred and an uninterrupted convalescence ensued. A large fluid fecal movement took place a few hours after the operation. The patient has never had a bad symptom and is now in good health, the functional action of the bowel being perfect.

CASE VI. *Cancer of the Stomach—Gastro-enterostomy.* —Mr. G——, aged sixty three. For two years has had symptoms of gastric trouble. During the first year had dyspepsia, frequent vomiting, but no pain or tumor. During the past eight months has had more vomiting, moderate pain, and a perceptible tumor, which he unwisely concealed. Two weeks before I saw him he again consulted his physician, Dr. Shufelt, of this city, having emaciated rapidly, though having strength to be about his house and conduct his business. His vomiting now consisted in large accumulations of what he had eaten and drunk for a day previously, none of which seemed to have left the stomach. The bowels were quite empty. Occasional gnawing and crampy pains occurred at the pit of the stomach, and a tumor was found in the epigastrium.

I saw him December 4th. Dr. Shufelt's diagnosis was confirmed. The man's cachexia, emaciation, continued emesis, and the tumor were in evidence. The latter was unusually low down, being a hard flat mass the size of one's fist, with its centre at the right of the navel. The stomach-tube brought away a quart of sour, undigested food and milk, and the organ was washed out with an alkaline liquid.

The patient's pulse was thready, and condition wholly unpromising. Yet his energy and will were so strong that I decided, after endeavoring for three days of preparation by stimulants, nutritive enemata, and stomach washing once daily, followed by introduction of warm, soft nutriment into the stomach, to fit him for exploration and possible gastro-enterostomy.

December 7th, at his urgent request I operated, under ether, assisted by Drs. Shufelt, Fisk, and Dunham. The stomach was found greatly dilated and pouched in the left hypochondrium. The pylorus and anterior wall for a space of four or five inches was a solid, flat, malignant mass, distorted and dragged below the level of the navel. Extensive cancer infiltration stretched into the mesentery. Displacing the transverse colon and omentum, I seized the nearest coil of small intestine below and behind the stomach, and drawing it into the wound applied Senn's method of determining the location of the duodenum. Holding the loop first seized, I drew out a foot and a half of the bowel and found it appreciably thinner in the texture of its walls, showing that it led toward the distal part. Replacing it, I then drew in the opposite direction and found, in less than a foot, that it could be dragged no farther and that its walls were perceptibly thicker. For further corroboration I slipped my fingers down the face of the gut into the abdomen, and found it secure in the duodenal region. I now quickly dragged up the most convenient sound portion of the anterior wall of the stomach, and applied two parallel rows of continuous fine silk suture to unite the wall of the bowel and stomach for full three inches. Having previously secured the abdomen against the entrance of fluid by packing with flat sponges, around and within the lips of the wound, but not putting them wholly into the cavity, I opened the bowel and stomach by free incision two and a half inches long, and half an inch from the line of sutures, and secured the apposition as detailed elsewhere.

Repeated flushing of the exposed parts with hot water maintained cleanliness. The united portions being dried, were dropped back and the abdomen closed. The entire anastomosis occupied but twenty minutes. Fine black silk and straight needles alone were used.

The latter part of the operation was done with the patient's head lowered to maintain heart action. After operation he rallied well for two hours, but then failed, and, in spite of saline infusion of more than a pint into a vein at his elbow, as well as stimulating enemata and hypodermics, he failed and died.

CASE VII. *Lateral Anastomosis by Catgut Rings for Chronic Obstruction—Death.*—December, 1889, Charlotte B——, aged forty-four, was transferred to my care in an exhausted state from symptoms of chronic intestinal obstruction, with continuous vomiting of yellow and offensive fluid, persistent cramps, and intense thirst, and emaciation which had been progressive for two months, but which had existed in moderate degree for the previous year. A large tumor of the abdomen was observed, containing fluid and gas. December 22d, I did laparotomy, discovered a small malignant stenosis of the ileum, with enormous dilatation above it resembling a stomach. The conditions seeming favorable, I did an immediate lateral anastomosis, uniting the intestine above and below the stenosis by aid of catgut rings. The patient's condition was not warranting resection of the malignant portion. The time of anastomosis was twenty minutes. The patient survived six hours, dying from the exhaustion incident to her grave condition.

Observations.—It has been with uninterrupted interest that the surgical world has for several years watched the reported researches in the field of intestinal surgery for the development of additional resources to enable it to cope with the complex accidents in this field. Experimental work has shown that the use of artificial aids in restoring the intestinal canal by anastomosis is feasible by such means as bone plates, catgut rings, segmented rubber rings, or vegetable plates. Their use has largely been confined to experiments upon dogs, and their boasted advantage has been that there will be a reduction of time at operations. While not denying the utility of experiments upon dogs (for I am myself indebted largely to this work for valuable lessons), I would emphasize the contrast that exists between operative work in dogs and in the human subject, on account of the relative quality and reparative action in the two species. It is extremely easy to accomplish satisfactory recoveries in surgery of dogs' intestines by almost any method.

Accumulating evidence of the methods applied to the human body may now be weighed by those of experience in this field. From evidence of published and unpublished cases, it can be shown that in the hands of even competent men, using any of the artificial aids to accelerate the operation, the accidents may occur of having leakage, or suppuration, or hemorrhage, or obstruction from plates, or irritation of the canal from so considerable a foreign body. The question of time gained during what is usually a prolonged operation, perhaps at most five or ten minutes, in the face of the uncertain advantage of bone plates, etc., is one that in my opinion is greatly outweighed by the superior advantage of having absolute security against leakage, blocking, etc., by the method of simple suturing.

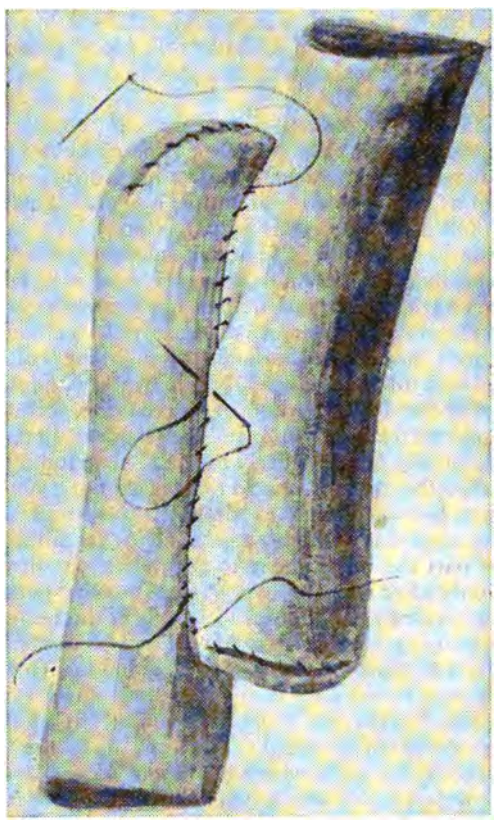

FIG. 1.—Suturing Intestines in Apposition before Incision.

The technique of the latter procedure is a matter of easier accomplishment and far greater satisfaction in its results than that of the newer methods. The fifteen recently reported cases of gastro-enterostomy by Senn, seem to me to give results inferior to the older method by suturing.

There is one feature of the operation of anastomosis which has heretofore received no special attention, but which I believe to be of the very greatest moment in determining the lasting benefit of the operation, that is, the question of stenosis of the newly made orifice. The law of cicatricial contraction, that operates so effectually in closing accidentally made fistulæ into the intestinal tract, or comparatively large ulcerations between the gall-bladder and the intestines, is here the direct antagonist of the surgeon in his endeavor to create a permanent and adequate anastomotic opening. The incised opening made for the use of Senn's plates is about one inch and a half in length, and the contraction of such an opening sometimes with great rapidity, has in some cases rendered it entirely inadequate to its service. Not many autopsies remote from the date of operation are as yet recorded. Three of my cases of lateral anastomosis illustrate the subject admirably. In the first, done in

1888, between the ascending and transverse colon, where I had used Senn's plates, the patient dying six months after operation, the aperture, which was one inch and a half in length, had contracted to three-fourths of an inch, and was sufficient for its purpose only when laxative medicine was constantly given. In the second case, the patient dying six months after anastomosis, with catgut rings, the opening had contracted from one inch and a half down to a half-inch. In the third case, eight months after lateral anastomosis of the sigmoid by suturing, the

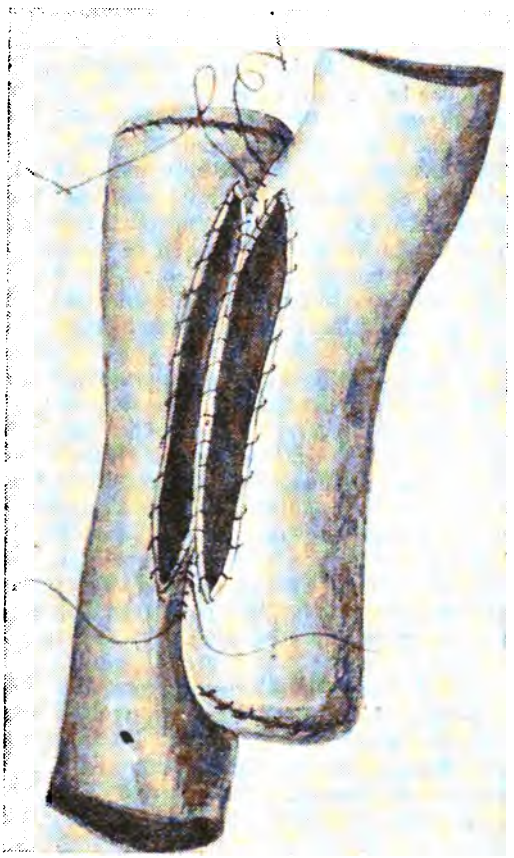

FIG. 2.—After Four-inch Incision and Sewing the Edges.

aperture contracted from three inches to one and a half. This was perfectly competent to do the functional work of the bowel.

These results were relatively good, but not so perfect as that which so far has been brilliantly demonstrated in two of the other cases just reported, where lateral anastomosis by suturing around a four-inch opening was done with instant and absolute functional restoration.

I believe the future utility of lateral anastomosis lies in making openings four inches in length in the sides of adjacent bowel. This, I contend, is almost impossible with bone plates, and only to be done by very long catgut rings or vegetable plates, with less security and as much consumption of time as by suturing. The contrast is enormous between dropping back into the abdominal cavity a beautifully sutured, absolutely tight and flexible anastomosed end of intestine to any position in the abdomen which its natural surroundings demand, and the returning a huge bunch of bowel, inside which there is a pair of five-inch plates of bone or raw potato, to remain as irritating foreign bodies stimulating peristalsis, and tugging at the wound until they are softened enough to be swept on by the current, or, as in one of Senn's cases, to be vomited up after dangerous retching.

As regards time, even were it proved that a hand equally expert at each method could do that by plates a few minutes quicker, the relative advantage of the two procedures for safety still lies with suturing.

But, as a matter of fact, I have found that to do thoroughly a lateral operation in the living subject, by either plates or rings, takes twenty or twenty five minutes, and the same operation by simple suturing, done with the greatest nicety and perfect security, has taken me twenty minutes.

The six cases of lateral anastomosis of bowel to bowel, as well as the gastro-enterostomy and other intestinal suturings, which I have reported (*Philadelphia Medical News*, June 1, 1889), speak strongly in favor of the uniform use of suturing alone. The one fatal one of the six lateral cases was where I made immediate apposition of an enormously distended bowel above an obstruction to a collapsed portion below it, the patient being already in a deplorably bad condition.

Since that and other experiences with great fecal accumulations, I have strongly advocated the uniform practice of first creating an artificial anus, allowing a few days for recuperation, and avoiding the fecal toxæmia, which I believe is a serious factor when the stagnant flood of fluid fæces flows freely into the unused and receptive bowel eager for absorption.

The perfect technique of suturing will be found in the following method:

Bring the two surfaces that it is proposed to unite well up in the wound, and surround them by small compresses of gauze or towels or flat sponges wrung out of hot water.

Have at hand a half-dozen fine cambric needles threaded with ordinary finest black embroidery silk that has

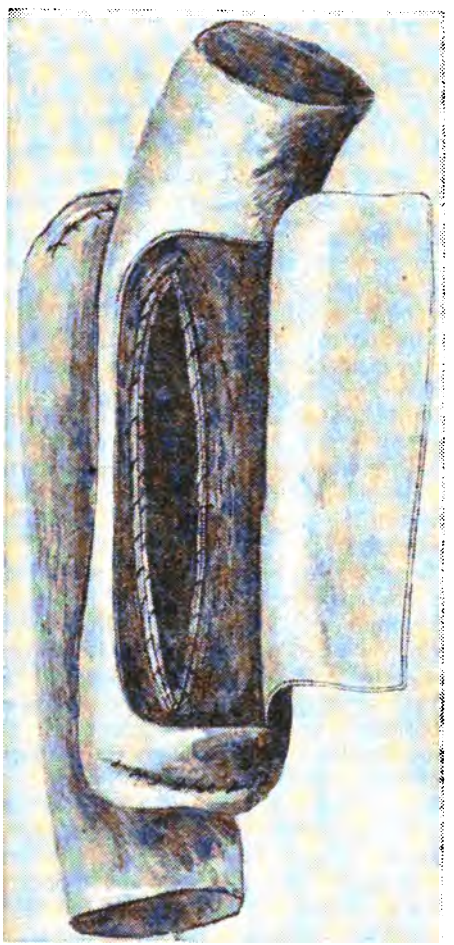

FIG. 3.—Complete Anastomosis. Window cut out to show interior.

been well boiled and kept in alcohol. Cut in lengths of not more than twenty-four inches and tie with a single knot at the eye of the needle. with one end cut to within two inches. Apply two parallel rows of continuous Lembert suture, a quarter of an inch apart, and an inch longer than the proposed cut (Fig. 1.). Leave each thread with its needle attached at the end of its row. Now open the bowel by scissors, cutting a quarter of an inch from the sutures, both rows of which are to remain on one side of the cut. Make the bowel opening four inches long. Ap-

ply clamps temporarily to several bleeding points, pinching the entire thickness of the cut edge without hesitation. Apply no ligatures. Treat the opposing bowel in the same manner. The clamps remaining *in situ*, the parts are quickly rinsed with water. Another silk suture is now started at one corner of the openings and unites by a quick overhand the two cut edges lying next the first rows of sutures (Fig. 2). The needle pierces both mucous and serous coats, and thus secures the bleeding vessels, from which the clamps are removed as the needle reaches them. This suturing is then continued round each free edge in turn, and all bleeding points are thus secured more quickly than by ligature. The serous surfaces around these button-holes are then rapidly secured by a continuation of the sutures first applied, the same threads being used, the one nearest the cut edge first. The united parts are again rinsed with water and dropped into the abdomen.

In conclusion I would reiterate my conviction: 1. That the attempt to simplify the technique of lateral anastomosis by bone plates and other devices has not improved it. 2. That lateral anastomosis properly done is eminently the safest and best method of restoring the canal in most cases. 3. That simple and thorough suturing with a fine silk continuous suture, applied after the manner detailed, is most satisfactory. 4. That in order to allow for the inevitable tendency to stenosis an aperture four inches long should be made between bowels. 5. That scarifying opposing surfaces is entirely unnecessary to quick and solid repair.

A CONTRIBUTION TO THE STUDY OF HEADACHES, WITH PARTICULAR REFERENCE TO THEIR ETIOLOGY AND TREATMENT.[1]

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By the term headache we understand a painful condition referred to the head, associated with more or less mental incapacity and intolerance of light and sound, generally in proportion to the cause and intensity of the suffering.

In proportion to the amount of suffering inflicted on humanity by headache, it has been less studied and more treated than any disease in the category. No age, no period of life, no condition of bodily excellence is entirely exempt from it. Like all other diseases which are so extensive in their dissemination, and so little understood as regards their pathology, their treatment has involved most of the drugs in the Pharmacopœia and many additional measures.

It has been estimated that fifteen per cent. of all patients suffering from nervous troubles claim headache as their principal symptom. Three periods of life seem especially prone to it, viz.: 1st, from second dentition to puberty; 2d, about the time of the menopause in the female; and 3d, between twenty and twenty-five, and least of all, in old age. Considering the predisposition of the female to the occurrence of pains at the catamenia and menopause, and taking into consideration the exigencies of her life and surroundings, it is not surprising to find that headaches occur three and a half times as often as in the male. Headaches occur more during the winter season than during the summer. They are more apt to occur in those who lead a sedentary, studious, indoor life, and particularly in those who habitually overwork mentally at some one particular thing without variety. A hereditary tendency and a repetition of the attack is a large predisposing factor, particularly in female patients, and not only a direct transmission is inherited, but a proneness to pain due to a neuropathic temperament. All writers agree on this subject, in saying that headaches occur three or four times more frequently in patients of neurotic temperament than in those of a sanguine or phlegmatic. They are without question the most common concomitants of systemic disturbance and disease, and in many so-called functional nervous diseases a headache is a prominent symptom, as, for instance, in chorea, where Hughlings-Jackson and Herman estimated that seventy per cent. of all children with chorea suffer from headache.

It occurs most often in those whose manner of living prone them to disability, whether it be from the indulgences in those excesses that result in cell depravity, as in the higher classes, or from the disobedience of hygienic and nutritive laws which are followed by a proneness to all diseased conditions in the impoverished. And lastly, as regards general conditions, it is apt to occur repeatedly in the same subject. One attack tends to another; nerve-centres when once disturbed in a particular direction are more easily so upset again than in another way. A sort of a headache habit, as it were.

All manifestations of head pains may be classified under one of the three following conditions:

1. They may result from a disturbance of the kinetic energy stored up in the sensory areas of the brain, and manifested by an explosion or storm which expends itself principally in the ophthalmic division of the fifth nerve, and is known as migraine.

2. They may result from the altered condition of a nerve or nerve-fibrillæ, brought about by some irritant; neuralgia.

3. They may result from any condition not giving rise to either of the above. And it is with this last variety alone that this paper is concerned. Headaches may be classified as to their etiology, their pathology, their location, their symptoms; but according to their etiology is most satisfactory for therapeutic purposes. The most recent, and probably the best classification, is that of Dana's,[1] apparently a modification and improvement of the one given by Erb. That classification is as follows:

I. Hæmic Causes.—(*a*) Anæmic. (*b*) Diathetic states (gout, rheumatism, diabetes, etc.). (*c*) Infections. (*d*) Uræmia.

II. Toxic Causes.—Lead, alcohol, tobacco, drugs, etc.

III. Neuropathic States.—Epilepsy, neurasthenia, chorea, hysteria, etc.

IV. Reflex Causes.—Ocular, dental, naso-pharyngeal, auditory, dyspeptic, sexual, uterine, etc.

To this should be added, I think, under the heading of hæmic causes, at least hyperæmia, and under the diathetic states at least the lithæmic, and perhaps auto-toxæmic conditions which, although perhaps part and parcel of the others, are of sufficient importance to merit the dignity of a separate heading. Then a transference of diabetes from under the diathetic condition, and placing it side by side with uræmia.

Anæmic headaches arise from two entirely different conditions: one in which there is an impoverishment in the nutritive powers of the blood, and second, where the vascular tension is diminished, a condition which may be, but not necessarily so, associated with oligocythæmia. As a result of the first condition, the cells of the sensory areas in the cortex have their normal stability interfered with, so, although they may not in themselves be the seat of pain, they allow the pain to become manifest. This is the variety of pain most common in young women after puberty, and is associated with that symptom complex of the general anæmic condition which is familiar to every physician. And particularly apt to occur with this condition are pains in other parts of the body, neuralgic like in character. The headaches associated with diminished blood-pressure must be explained in a somewhat similar manner to those of anæmia, excepting that in these conditions the sensory areas do not suffer so much from lack of proper nutrition as they do from proper stimulation to functionate normally, and so fall into sluggish and perverted ways. Likewise must we explain the headaches arising from a condition of the blood in which there is an excessive number of corpuscles proportionate to the liquid element. And here it may be said that the administration of many substances or factors causing a rise of blood-

[1] Read before he New York County Medical Society, February, 892.

[1] Medical News, Philadelphia, 1889.

pressure, which is not long continuous and followed by depression, is apt to be followed by headache as an after-symptom; and in this way are to be explained the headaches resulting after indulgence in diffusible stimulants, a condition which occurs so exquisitely after a champagne excess. Fevers and excitement, and mental irritants in general, cause headache in a precisely similar manner.

Of the hæmic causes the most interesting, however, come under the subdivision of diathetic conditions, for here we can trace with almost scientific accuracy the relation between cause and effect; and particularly is this so in the subdivision of the diathetic state, of which we shall have most to say, namely, lithæmia; a condition which was defined in 1874 by Murchison, in his Croonian Lectures, as an indication of a morbid state of the blood, due, in his opinion, to the abnormal disintegration of albuminous matter in the liver, bringing about an excessive production of uric acid and an excess of lithates in the urine, or lithuria. This term is still most largely used to express the now familiar symptom complex, but the preferable one of uric acidæmia, suggested by Von Jaksch, will probably supersede it.

To the labors of Dr. A. Haig, of London, we owe a large part of our recent knowledge concerning the manner of the production of uric acid, and the ways by which it produces symptoms. Haig claims that the symptoms are due, not to excessive production of uric acid or its compounds, but to the retention of it in the system, whether it be in excess or not; and he shows that when the urine excreted during a lithæmic headache is carefully separated from that excreted before the headache began, or after it has left off, an excess of uric acid relative to the urea is always found. Before the headache begins the relation will probably be 1 to 40; after it will be 1 to 20; the normal relation being about 1 to 33. In speaking of his own case personally, he says: "I soon found out that in influencing the excretion of uric acid I could influence the headache also; that acids which diminished the excretion of uric acid in the urine relieved or removed headache; while, on the other hand, alkalies increased the excretion of uric acid and made the headache worse. Therefore any condition which causes an excess in the production of uric acid, providing there is also an abnormal retention of it in the blood, will give rise to headache. This state of affairs may be brought about by the taking of an excessive amount of nitrogenous food, the normal metabolism of which has for one of its by-products uric acid; or it may result from a deficiency of the factors concerned in oxidizing these albuminous substances, and this inability may be inherited or acquired. In this way is to be explained in a vast degree the headaches occurring in people of sedentary habits, indoor occupation, and in those taking very little or no exercise; and to this also, as a contributing factor associated with diminished blood-pressure, arising partly from over-heated apartments and indulgence in enervating habits, must we attribute the extraordinary prevalence of headache in the American woman as contrasted with her sister, the Briton, always bearing in mind the temperament and frequently inherited neuropathic condition in the former, so as to render the tolerance of pain less easy. The introduction of food stuffs other than nitrogenous must not be neglected in their relationship to the production of uric acid, and of these the most important are substances rich in the potassium salts."

We are familiar with the patient who has inherited a weak liver, or who has a bilious headache, and who knows that periodically, and particularly after some unjustifiable digestive feat, he will suffer from an indescribable malaise, lack of cerebral activity, and stupid, heavy frontal ache, rarely occipital. Formerly we were content to give him a blue pill, "to stir up his liver," without asking the cause, but now we trace the relationship between his inability to take the substance of which uric acid is an effete product and his organism, particularly the liver, for it is here that most of the oxidation goes on—to complete the metabolism. It matters not whether he has received this inability as a parental legacy, or whether it has been developed. As a proof of the fact that the headache is to be attributed to the uric acidæmia, it may be stated that it has been proven experimentally that the period of depression and headache is often preceded by a period of mental exaltation and well being which is concomitant with a rise in blood-pressure, and a relative diminution of the uric acid in the urine preparatory to its retention in the blood.

In the winter number of *Brain*, Dr. Haig says that he found that, by retaining or storing up uric acid for a day or two by means of acid, he could accumulate it in the body, and by then giving an alkali he could bring out a lot of it into the blood and the urine and produce headache at will, and show at the same time that the headache is proportional to the excess of uric acid over the urea, and not to the amount of alkali used to bring it out.

While in this connection, it is interesting to note that the peculiarly aggravated and persistent depression after the grippe—the discussion of which has lately been occupying the attention of this Society—which often becomes suicidal in form, so intense is it, has been shown to be dependent largely, if not entirely, on the retention of uric acid in the blood. During the febrile period, or period of sthenic activity, the urea is increased and the uric acid is stored away, which is brought out in the system during the period of sluggish metabolism, at the time of and after convalescence.

Although the previously described condition may probably come under the termination of self-intoxication, the term auto-toxæmia is generally limited to a narrower conception, and that is the absorption, from the alimentary canal principally, of certain alkaloidal substances generally termed leucomaïnes, which are products of albuminous decomposition brought about either by the activity of cells, before or after entering the body, or by processes of digestion, as by unorganized ferments. The headache due to the absorption of extractives is to be distinguished from that due to leucomaïnes in many particulars, and the conclusions to be drawn as regards treatment are quite removed.

As regards the headache of diabetes, it is to be remarked that long ago De Chaumont pointed out that when glucose is in excess, some inhibitory influence seems to be exercised over the elimination of the extractives, so that they appear less in quantity, but to all intents and purposes the headache is the same clinically. This is proven by many authorities. In a discussion of Dr. L. C. Gray's paper on the "Manifestations of Uric Acid on the Nervous System," one of the gentlemen in discussing the subject of headache said, that in his own person the headache of diabetes, from which he previously suffered, was apparently the same as that from uric acidæmia from which he then suffered. Whether in diabetes the actual formation of the extractives is prevented, or merely their activity, cannot as yet be positively affirmed.

Regarding the headaches of fevers and infections, they are in all probability due to either the absorption of extractives or leucomaïnes, or both, and associated with a condition of disordered blood-pressure. In malaria this has been unquestionably proven.

Under the toxic causes of headache we have those substances, the most of which are used remedially, as quinine, alcohol, iron, lead, tobacco, opium, etc. As to how some of these cause it, we have previously discussed; particularly those which have marked action on blood-pressure, and as for lead and iron, although it is a familiar fact that they produce headache, it is now a matter of but little speculation to say they cause this condition by bringing about a retention of uric acid and laying it up as a reserve fund for the production of uric acidæmia, which is manifested by a headache that corresponds clinically with the headache of uric acid poisoning, and is most readily relieved by the same measures.

Of the neuropathic headaches but little can be said

concerning their etiology which is new or of importance, so long as our pathological knowledge remains in as obscure a condition as it is at present. In these neuropathic states the headaches of hysteria and neurasthenia are the most difficult of explanation, and particularly the latter; and our only assistance is to revert to the disorders in circulation and the resulting perversion in the functions and secretions of the body which in themselves cause the production of a morbid material, or allow of its introduction into the economy so as to act on certain areas and cause pain; and associated with this there is a psychical and bodily condition which permits the patients to suffer exquisitely, particularly in repetitions of the attack. In hysteria the pain is probably the result of molecular or nutritive changes in the centre for sensation in the brain. In other nervous diseases where headache is a prominent symptom, as in chorea particularly, and somewhat so in epilepsy, we have already found corporeal changes or hæmic dyscrasia which are sufficient to account for this symptom.

In the reflex causes we have a large and constantly increasing field for consideration. It has been attempted time and again to explain all forms of functional cephalalgia along this line, and the arguments of many of its advocates, particularly the eye specialists, are often so potent as to be, seemingly, sometimes invulnerable.

In reviewing the literature of this subject in something over a hundred articles, I find that they are responsible for much more than their share of these writings, and that frequently their statements, as regards the importance of their espoused specialty in producing headaches, are simply appalling. That a comparatively large number of headaches have their origin in defective or diseased ocular apparatus, no one will deny. And particularly is this so of the headaches of children, where, if they are not traceable to inherited conditions, are in most cases dependent on the eye. The defects here most often are unquestionably hypermetropia and astigmatism, and of the former it may be said that when it causes this symptom, probably a high degree of refractive trouble will be found; in the latter, more often a very slight degree. Of the other ocular troubles trachoma will be found to be responsible for a few headaches, as will also simple chronic ophthalmia. Of the remaining reflex causes, those from the naso-pharynx and teeth are undoubtedly most important. They probably both act largely through the vaso-motor nerves, causing a vascular spasm which in return causes the pain of headache. This is particularly so of the headache resulting from decayed teeth, the immediate effect being brought about by disturbances in the superior cervical ganglion.

Of the naso pharynx and auditory, there are but few affections of these organs but what may give rise at one time or another to headache; but they are not so frequently observed as are the uterine, where it is frequently the result of ovarian irritation and inflammation, and corporeal and cervical disease, and almost always associated with some disturbances of the alimentary tract, as the paroxysm is apt to be worse in the afternoon and evening, and particularly so where there is any abdominal gaseous distention.

The dyspeptic, bilious, and headaches from constipation are probably more largely dependent on the absorption of toxic matters into the system than from a purely reflex cause. These headaches do not differ widely from those already described under the auto-toxæmic variety, excepting in so far as they are associated with symptoms referable to the alimentary canal directly. Their clinical manifestations very closely correspond.

The headaches referable wholly to the sexual organs are the rarest of all the reflex varieties. A peculiar case, which was observed some two or three years ago, was that of a boy who suffered from a severe spasmodic cough and headaches, for which the only discoverable cause was a partly imperforate urinary meatus, which, on being operated on, was followed by a relief of the reflex troubles.

Of the headaches dependent on constitutional diseases we shall have nothing to say. They are caused by the direct action of the morbid material on the pain areas, or reflex in nature. They arise from the various forms of traumatism to the head, or they are the result of some intra-cranial disease.

In attempting to discuss the treatment of this distressing symptom, one is at once awed and appalled by the number of things which are referred to for their curative effects by the various authors on this subject. The specifics vary as widely here as they do for phthisis. One writer alone gives sixty-nine different substances used for the relief of headache. We shall content ourselves with the mention of a few which have been found from personal experience, and gleaned from the experience of others, to be at least not specifics but certainties. And of these there are two which stand out prominently above all others as pure medicinal measures. They are the salicylates and the chloride of ammonium. Of the former, we will find that choosing either phenol salicylas, ordinarily known as salol, or salicylic acid itself, will be productive of most good. This class of substances are without question of most importance in the diathetic, the toxic, and auto-toxæmic states—the salicylic acid uniting with the uric, forming what may be termed saliuric acid, which is innocuous and easily removed from the system. The salicylates are also powerful anti-fermentatives.

This, combined with the administration of a mineral acid to prevent the formation of uric acid compounds and to dissolve urine out after it may have once formed, will be found most valuable. Ammonium chloride has been employed both externally in a saturated solution, and internally in large doses, for the relief of headache, and it is deservedly one of the most popular remedies. It probably owes the larger part of its efficacy to its action on the liver and mucous membrane of the stomach, and is particularly valuable when the headache is associated with loss of appetite, sickness, bad taste in the mouth, fulness in the stomach, flatulence, coated tongue, and stuffiness of the bronchial tubes. Wafers containing from 3 ss. to 3 j. should be administered every two to four hours for three doses.

Headaches dependent on diminished blood-pressure are frequently relieved by the simple act of sipping, as, for instance, taking a glass of cold water by mouthfuls. It has been shown experimentally, and practically demonstrated, that during the act of sipping the blood-pressure rises, which is followed by a slight fall after the cessation of sipping, to be followed, however, by a secondary and permanent rise. Krönecker attributed this rise after sipping cold water to the partial abolition of the inhibitory action of the vagus on the heart. An increase of blood-pressure may be brought about also by mastication, sniffing irritant substances, exposure to cold and excitement; and by means of this last agent must we account for the disappearance of functional headache when the attention is engaged. Of course those headaches may also be relieved frequently by the administration of the cardiac neurotics which cause a rise in blood-pressure, but unless their use is continued the action is evanescent; and particularly is this so of the diffusible stimulants which many patients, particularly females, find relieve them, but frequently at a disastrous expense, that of forming the habit.

In congestive headache we undoubtedly get best results from the use of ergot internally and derivatives to the extremities, or external use of cold frequently assisted by a dose of bromide as a vaso-motor equalizer. And in this condition galvanism to the cervical sympathetic will frequently be followed by relief.

When the headache depends on simple stomachic hyperacidity without constipation, the pain being located principally at the junction of the hairy scalp and forehead, the administration of bicarbonate of soda will give relief; and, on the other hand, the pain of headache when situated just over and between the orbital arches, and de-

pendent on sluggish stomachic digestion attended by constipation, is most expeditiously treated by giving acids and simple bitters. It need not be said here, as it has so often been said with emphasis, that in reflex headaches the causative factor having been overcome, the headache will disappear. Then we need not speak of the astigmatism or hypermetropia, which must be properly corrected, or the esophoria or the exophoria which may demand an operation before the consequent pain will disappear. In the same way may be dismissed the auditory, the nasopharyngeal, and those dependent on decayed teeth, etc.

Words of warning concerning the use of recently introduced nervines—products of coal-tar distillation—cannot be sounded too loudly, particularly in reference to antipyrin, phenacetin, antikamine, coaline, and other proprietary substances; not but what they frequently relieve a transitory neuralgic headache, but they in no way exert an influence to cure the root of the evil on which the origin of the headache is based, and by their repeated use they create a necessity for their continuance which becomes sooner or later nothing more than a habit; for I am sure I have two ladies under my care at present who are almost held in obeisance to antipyrin by their having abused its use.

It is unnecessary to speak in this connection of the treatment which should be employed during the interval; it can be summed up in one word, by saying that it should consist of preventing or overcoming every perverted condition on which the pain may depend, and placing the system in such a condition that it will be better able to combat the pain and make light of it when it does come.

The mention of all those substances which act by improving the general nutrition would be but a tedious and useless task. They vary as do the many causes of headache. One measure, however, which is more universal in its application than any other is water, and principally its external use; although the benefit accruing from its internal use is not to be slighted, acting as it does in elevating blood pressure, in flushing the kidneys, and so facilitating the removal of poisonous eliminatives, and by its direct action on the walls of the intestine stimulating peristaltic action and assisting in collecting the fecal matter and diminishing its consistency, so that it may be readily gotten rid of; also the influence which it exerts generally on those glands whose functions are mainly excrementitious and purifying. It is, however, from the external use of water at varying degrees of temperature that we are to expect the most beneficent results, by restoring the tone to the entire organism and principally to and through the nervous system. The therapeutics of water is a large field by itself, and requires extensive space for its discussion; but it may not be amiss to state that, as a general rule, those headaches dependent on hæmic and vascular changes will be most benefited by the application of cold water in such a way as to get an irritant effect, followed by a moderate but thorough reaction. Such may be obtained by the shower, plunge, or needle bath, and by the Scottish or French douche or the graduated spray. These measures, applied regularly and briefly, will in many cases be followed by the disappearance of the atonic condition of which the headache is but a manifestation. The application of cold water abruptly not only in itself stimulates the peripheral sensory nerves, but the mechanical irritation of the contact of the water does likewise. A stimulated molecular transformation throughout the entire body, with a concomitant excitation of function, is the result. The contraction of the smaller blood-vessels raises blood-pressure, and this continues for some time following the application of the water, and important centres thus obtain their proper stimulus.

Headaches dependent on neuropathic conditions, on the other hand, will be most benefited by applying water in such a way as to combine its sedative and tonic action, and this is most readily done by means of the cold sheet packing, or perhaps a modification of the wet packing which will not result in storing up too much of the heat which should radiate from the body, but which will exercise an action on the sensory nerves which, although not greatly stimulating, will be followed by a very slight contraction of the capillary blood vessels, and the transmission of a sedative influence to the cortical areas which, if not sensory entirely, are something analogous to it—the "peace of mind areas," perhaps. In this way many of the neurasthenics and those patients who have headaches from fretting and fussing will find relief.

And before closing, one word concerning the pathology. Statements concerning the exact location of the seat of pain rise only to the dignity of a conjecture. Dana says, rather dogmatically, headache is, strictly speaking, a form of neuralgia, and its seat is in the external envelope of the skull and dura mater. Another writer locates it in the sympathetic or fifth pair of nerves alone; while others, again, call it a neuralgia of the cortical substance. There are clinical phenomena in the course of some headaches to give ground for each of these theories. However, judging from experimental facts, as where Ferrier proves that destruction of the hippocampus convolution gives analgesia on the opposite half of the body; and from analogy, considering the discovery of other areas which have been recently specialized, as for heat, for instance, we might be tempted to grasp at a cortical pain area. All pain as a form of consciousness must be perceived by nerve-centres, and as pain does not partake at all as an important factor in low organisms, it is rational to conclude that higher nerve-areas preside over it. And although there are without question pain-areas in the inter and basal ganglia, we are tempted to conclude that, judging from the other functions of those parts, that they are in correlation and sympathy with higher areas. And if such a pain-area could be proven, our task of explaining a good many headaches would not be so intricate as it is at present; nor need it necessarily conflict with many of the other theories, of vaso-motor spasm, disturbance in the trigeminus, etc., for these might still be the ways and means by which the areas recognized or manifested the pain.

153 Lexington Avenue.

Leprosy in Japan.—Another missionary who devoted himself to the succor of lepers has just completed his sacrifice by giving his life in their service. Father Testevuide, who may be called the Damien of Japan, established the first leper house in that country in 1886. At that time no provision whatever was made either by the Government or the public for the care of lepers, and it was only by the most persevering efforts that the energetic priest was able to collect sufficient funds to build a leper house on Mount Fusi. This institution he personally managed till his death. His example has been fruitful, and now there are three asylums for the victims of leprosy in Japan, all apparently owing their existence to private charity.—*British Medical Journal.*

A New Anti-rheumatic.—Salophene is a derivative. It is obtained by treating para-nitrophenol with salicylic acid, reducing the nitrophenol by means of zinc and hydrochloric acid into an amide, and acting upon this with acetic acid. Salophene contains about fifty per cent. of salicylic acid, and exists in the form of thin scales, tasteless, inodorous, and with a neutral reaction. It is almost insoluble in cold water, and only slightly so when warmed. Upon the addition, however, of an alkali it readily dissolves. It is very soluble in alcohol and ether. It burns with a smoky flame, leaving no residue. In the stomach salophene breaks up into salicylic acid and acetyl para-amido-phenol. These substances are excreted by the kidney, and can be found in the urine. Salophene, owing to the presence of amido-phenol, is less poisonous than salol. According to Guttmann, it is a valuable remedy in articular rheumatism, given in doses of from four to six grammes a day in pill or in the form of compressed tablets.

AN ORIGINAL DEVICE FOR CORRECTING DEFORMITIES OF THE NOSE RESULTING FROM TRAUMATISM; WITH A REPORT OF TWO CASES.

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THE instrumentation and the operation proposed, aim at a refracture and union in proper position, of traumatically displaced nasal bones. The instruments used are an elevator (see Fig. 1), a retentive apparatus (see Fig. 2),

FIG. 1.

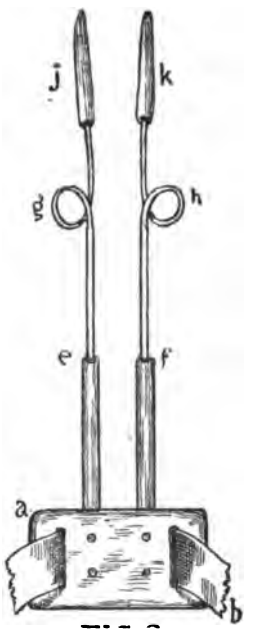


FIG. 2.

and a plaster cast to assist in retaining the parts in their proper position after the operation.

The elevator, Fig. 1, is shaped somewhat like a tuning-fork; it is so constructed that it will resist a considerable pressure; the length of the handle, *a*, *b*, should be at least six inches, to allow for the use of sufficient leverage in refracturing the bones. The prongs, *c*, *a*, which are two inches in length, round and tapering, in diameter from one-eighth of an inch at the point, *d*, to three-sixteenths of an inch at the base, *c*, should be so tempered that the interspace between the prongs of the fork may be varied from three-sixteenths to five sixteenths of an inch, according to the thickness of the nasal septum, and the indications of the case to be operated. The entire length of the instrument is about nine inches, and its tensile strength should be sufficient to withstand any possible pressure which might be exerted during an operation.

FIG. 3.

The retentive apparatus, Fig. 2, consists of a bone plate, *a*, *b*, two and one-half inches long, by one and one-half inch wide, and about one-quarter of an inch thick, having two slits through which is passed the head band for holding the apparatus in position. To this bone plate are riveted two flat wire springs, *e*, *f*, *g*, *h*; the spring coils, *g*, *h*, furnish the necessary pressure and are to be uncoiled on the application of the apparatus; at the ends of these springs two bone tips are fastened, *j*, *k*, which are of the same shape, size, and length as the prongs terminating the elevator.

The apparatus in position is shown in Fig. 3. The plaster cast, which is not shown on the cut, is to be made of several successive layers of muslin impregnated with plaster-of-Paris, and should be prepared immediately after the operation, when the parts are in their proper position, before tumefaction has occurred; it should cover the nose from the base nearly to the apex, and extend over each side, resting on the cheeks.

The operation is performed in the following manner: After adjusting the prongs of the elevator, so that the points will be as closely approximated as the thickness of the septum nasi will permit, and when the patient is thoroughly anæsthetized, pass them well up into the nostrils and under the nasal bones. The left hand is then rested on the patient's upper jaw, to be used as a fulcrum, and steady downward pressure made upon the handle of the elevator, the pressure is continued until sufficient force is developed to separate the bones and raise them into position; the force required will be very considerable, and should be made toward the most sunken side of the nose; the bones generally separate with a suddenness that is alarming, suggesting the possibility of the accidental removal of the entire nasal organ. The plaster cast should then be made, and, when the plaster has thoroughly hardened, be removed and reserved for future use. The after-treatment is not commenced until the following day. The bone tips of the retentive apparatus, after being well smeared with vaseline, are introduced into the nostrils, and the plaster cast is placed in position over the bridge of the nose and retained by strips of adhesive plaster, the whole apparatus being worn from two to four hours each morning and evening. This treatment is continued daily, the length of time during which the apparatus is worn each day depending on the degree of irritation produced thereby.

The advantages claimed for this operation and mode of treatment over the old methods are: 1. The thoroughness, rapidity, and the comparative ease with which the operation is performed. 2. The ability to maintain during the operation an even pressure on both nasal bones at the same time, or greater pressure can be exerted on either side, if required, in consequence of more extensive sinking, by simply tilting the fork. 3. The absence of any external injury, which may occur in using the forceps. 4. The fracture produced is simple, instead of compound, as in the chiselling operation. 5. The value of the retentive apparatus in preventing subsequent sinking.

This operation has been performed on the two cases which are here reported.

CASE I.—G. B- - -, aged thirty-two, a strong, well-nourished man, born in the United States. He had a large and flat nose, the bridge of which was much sunken and deflected to the left. About five years before coming under observation he received a blow which took effect especially on the nasal bones, producing the great deformity and depression of the nose. The cartilaginous portion of the septum nasi was but slightly deflected.

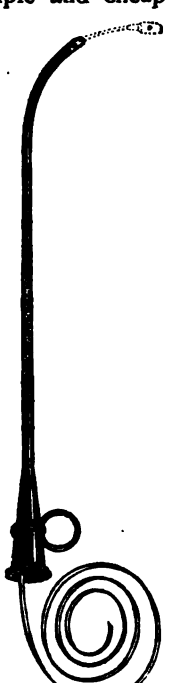
January 10th.—The operation as above described was performed, and was accompanied by a moderate amount of nasal hemorrhage, the bones were uplifted and pried toward the right side, leaving the median line of the nose perfectly straight, and the bridge sufficiently elevated. The retentive apparatus and the plaster cast were used twice daily for the next ten days, the periods of time during which they were worn being increased from two to four hours for each application. At the end of this time all instrumentation was discontinued, the apparatus at no time having produced unbearable irritation. The result of the operation was satisfactory, the deformity being sufficiently corrected to entirely change the appearance of the patient's face, which presented no evidence of the previous existence of so disfiguring a nasal deformity.

CASE II.—C. H——, aged twenty-seven, born in Ireland, was healthy but thin, with angular features, and a moderately prominent but very sharp, thin nose. Three

years before this time he had a fall while on shipboard, striking the right side of the nose, deflecting both nasal bones to the left. The septum nasi was also displaced to the left, its shape being concavo-convex with the convexity extending toward the right side, the tip of the nose was deflected about one half-inch from the median line. In this case it was considered necessary, before refracturing the bones, to remove a section of the cartilage; the portion of cartilage removed was elliptical in shape, the incisions were made at right angles to the plane of the septum, the direction being from behind forward and downward. At the points of the elliptical opening single incisions were carried backward and forward in such a manner as to separate the upper portion of the septum from the lower half, which was forcibly pushed toward the left side by introducing the finger into the nostril.

The operation was performed similarly to the preceding one; in consequence, however, of the extreme thinness of the nose, it was more difficult and the elevator was not so easily applied as in the first case. The position of the cartilaginous edges of the septum after the excision and refracture was good, the retentive apparatus assisted in maintaining apposition of the cut edges until the healing was perfect. The nasal hemorrhage in this case was excessive, the oozing continued for several days after the operation. The after-treatment was identical with that of the former case, the retentive apparatus was, however, worn longer to insure perfect union of the cut edges of the septum, and symmetry of the bony parts. The result of the operation was very gratifying in its cosmetic effect, as well as in the decided improvement in breathing space resulting from the replaced septum nasi, which approximated its normal position.

In case excessive hemorrhage should occur as a result of the operation, or in uncontrollable hemorrhage of the nose from any cause, the following simple and cheap method of plugging the posterior nares may be employed. No originality is claimed for this procedure, the principle involved being that of the nasal cannula of Bellocq.



The intrument consists of a Eustachian catheter of medium size, and a steel spring which will pass easily through the catheter and is about twelve or fifteen inches in length, curling upon itself at either end of the catheter as it is passed through it or withdrawn, tipped with a small, olive-shaped piece of German silver the size of the catheter with an eye drilled through it for the passage of the thread. It is used in a similar manner to Bellocq's cannula, the spring being passed through the catheter, but it possesses some special advantages, which are: 1. The catheter is smaller and more easily and painlessly introduced, and may be passed readily in children and in cases of nasal deformity preventing the passage of the larger cannula. 2. The length and pliability of the spring will permit its passage to a point easily reached by the fingers, and it may be drawn from the mouth and unthreaded. 3. The trifling cost of the instrument.

The instruments as above described are manufactured by John Reynders & Co, New York.

An Aged Couple reside at Swain Station, N. J., the man being one hundred and three years of age, and his wife ninety-three.

A Home for Incurables, to be known as the House of Divine Providence, has been established at Ridgewood, N. J., by the Sisters of Charity.

A CONSIDERATION OF SOME OF THE AFFECTIONS OF TENDON-SHEATHS AND BURSÆ, AND THEIR RELATIONS TO INJURIES AND DISEASES OF THE JOINTS.[1]

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I HAD intended to consider somewhat in detail primary diseases of bursæ and tendon-sheaths, but a reconsideration of the cases whose treatment had induced me to choose this subject for discussion showed that, in the great majority, affections of the tendon-sheaths were secondary to injury in which a joint was also involved, while the cases of primary disease were too few for the purpose of a paper designed to be clinical in character. I propose, therefore, to call your attention to some of the anatomical relations of tendon-sheaths, and to consider their affections with reference chiefly to their importance in the treatment of joint injuries, not limiting myself as strictly as the title of the paper would imply.

Bursæ and tendon-sheaths are practically identical in structure and function. A bursa is a closed sac upon which a tendon rests, which covers a bony prominence or lies between two tendons; a synovial sheath is a bursa which surrounds more or less completely a tendon.

The majority of bursæ and tendon sheaths are perfectly formed at birth, undergoing certain changes with the age and occupation of the individual, or developing *de novo* from the connective tissue, as occasion requires.

In structure they are composed of an outer layer of fibrous and elastic tissue, more or less adherent to the surrounding parts, and an inner layer approximating that of serous membrane, differing in the character of some of the cells, which are in places superimposed one on another, secreting mucin, which gives the contents of the sac its peculiar character.[2]

Normally there is no excess of fluid in the sac, its two layers being in contact. A tendon-sheath partially or completely surrounds the tendon, its inner layer being closely adherent to it; this sheath is not like a tube through which the tendon passes, as it is often described, but is rather like a sac folded about it, an interval remaining where the two outer layers meet, for the passage of vessels. This has been called the meso-tendon, from its analogy to the mesentery of the intestines.[3]

Not all the important tendons are provided with sheaths, however; those which have none are simply surrounded by loose connective tissue, showing that fully-developed sheaths are not essential to the health or functional uses of the tendons. The statement, therefore, that the sheath stands in the same relation to the tendon as does the periosteum to bone, is an exaggerated one.

The tendon-sheaths are, with few exceptions, grouped about the wrist, hand, and ankle. I shall briefly outline their arrangement, referring those who may desire a more complete knowledge of the subject to the writings of Rosthorn,[4] Garré,[5] Schwartz,[6] Schüller,[7] and others.

At birth each finger has upon its flexor aspect a tendon-sheath reaching from the head of the metacarpal bone to about the middle of the second phalanx. In the wrist and palm there are two separate synovial sacs, each beginning at about the level of the wrist-joint, the one on the radial, the other on the ulnar aspect, lying in close contact with the carpal ligaments, in the palm being more superficial and adherent to the palmar fascia. The radial sac envelops the two tendons of the thumb only; the ulnar the two tendons of the little finger and partially those of the ring-finger. The other tendons have, as a

[1] Read before the Orthopædic Section of the Academy of Medicine, December 18, 1891.

[2] Soubbotine: Archives de Physiologie Normale et Pathologique, vol. vii, p. 532.

[3] Schwartz: Art. Synoviales, Nouv. Dict. de Méd. et de Chir.

[4] Arch. für klin. Chir., vol. xxxiv., 1887.

[5] Beiträge zur klin. Chir., Bd. 7, p. 293.

[6] Loc. cit.

[7] Deutsche Medizinische Wochenschrift, July 20, 1878.

rule, no sheaths. At about the first year the radial sac joins that of the thumb and the ulnar that of the fifth finger so that free communication is established with the synovial membrane of the wrist and palm—an anatomical peculiarity which is often demonstrated clinically by the rapid spread of peripheral inflammation to the palm, when either of these two digits is implicated. There are in addition at the annular ligament two small bursæ for the superficial tendons, the palmaris longus and the flexor carpi radialis. It is not necessary to mention in detail the six small sheaths on the back of the wrist, the most important is that of the common extensor of the fingers, beginning at the wrist-joint and extending about one-third of the distance up the metacarpal bones. These sheaths being more superficial, and for the most part lying directly on the bones, are more prone to injury in sprains and fractures at the wrist.

At the ankle-joint all the tendons are provided with sheaths; on the front of the foot are three—the sheath of the tibialis anticus which extends from just above the extremity of the malleolus to the scaphoid bone; that of the extensor longus pollicis, from the same level to the head of the first metatarsal; and the common sheath for the extensor communis digitorum, extending from a point about two inches above the malleoli to about one inch below the annular ligament. Behind the internal malleolus are the common sheaths of the tibialis posticus and flexor longus digitorum, beginning one-third of an inch above the point of the malleoli and extending to the astragalo-scaphoid junction, and that of the flexor longus pollicis of about the same extent.

Behind the outer malleolus is the sheath of the two peroneii, beginning one-half inch above the malleolus, dividing into two portions for the two tendons, and ending just behind the tuberosity of the fifth metatarsal bone. Although the normal boundaries of these sacs are about as described, when diseased they enlarge and extend indefinitely in either direction.

Primary affections of tendon-sheaths may be divided into acute and chronic, the most common variety being the dry, crepitating form, from over-use or injury, most often seen about the extensors of the thumb, although in many of these cases, as Larger has shown,[1] the disease is of the ante-brachial bursa, and not in the sheaths of the tendons themselves. Less frequent is a subacute inflammation with slight swelling and local pain about the affected tendon. An acute inflammation with great effusion has been described by Brunon,[2] but there are few supporting cases.

A more chronic or plastic inflammation, caused by repeated injury, or after rheumatic affections, or from peripheral irritation or suppuration, which causes adhesions between the tendons and their sheaths with resulting functional disability, was first described in detail by Gosselin.[3] This form is of particular interest to us, who are considering secondary affections of tendons in relation to injuries of the joints. The treatment of these acute and subacute inflammations of tendon-sheaths is, as is well known, absolute functional rest, local compression, massage, and stimulation.

Chronic disease of tendon-sheaths, characterized by slow enlargement without adequate cause, increasing in size with progressive functional weakness and deformity, most often affecting the palmar sheaths, is now considered identical with fungous disease of the sheaths, and tuberculous in character,[4] for which there is but one treatment, early and complete excision. I have, at a previous meeting of the Society, shown one of these cases—an enlargement of the sheath of the common extensor of the toes, a large tumor constricted by the annular ligament and bulging in a characteristic manner at either end. The sac was removed and found to be almost completely filled with rice-bodies. To my surprise, microscopic examination showed no sign of tubercle. In the literature of the subject, however, may be found many similar failures, although the true character of the disease was afterward proved by inoculation,[1] so that Verneuil[2] classes them as cases of "concealed tuberculosis." The patient now, nearly a year after the operation, has perfect functional use of the foot with no sign of recurrence of the disease.

It is unnecessary to describe affections of bursæ as distinct from those of the tendon-sheaths, except that many of them being superficial, are more liable to injury, with acute inflammation and suppuration. The treatment is similar—rest and compression in the early stage, excision in chronic disease, since, tuberculous or not, it is at any time liable to become so. Volkmann has shown that the fibrinous deposit in these chronic affections is a most favorable nidus for the deposition and growth of the bacillus. The diseased bursa is not essential to the functional use of the tendon, but a source of weakness, at any time liable to acute inflammation.

Enlarged bursæ in connection with tendons, are most often found in the popliteal space, and, as Foucher has demonstrated,[3] the bursa of the semi-membranosus muscle is usually affected.

Cysts in this locality, communicating with a diseased knee-joint described by Morant-Baker,[4] are of little interest in this connection. Corresponding to the subacute inflammation of tendon-sheaths is a similar affection of connective tissue about a tendon. My attention was recently called to this point in the treatment of a boy of sixteen, suffering from pain and progressive weakness at the wrist, with no previous history of injury.

All that could be made out, was a slight thickening, with local tenderness about the flexor carpi radialis tendon, at the wrist. Palliative treatment was of no avail, but recovery followed promptly after complete confinement of the hand in a metal splint with local compression and stimulation.

Another point of interest in this connection is the local pain and tenderness about the insertion of the tendo Achillis, caused by overwork or the pressure of tight shoes.

Raynal has described the arrangement of the tendon,[5] enclosed with connective tissue between two layers of fascia, and considers the affection a peri-tendonous inflammation, to be treated in the manner already indicated. After rheumatic inflammation of the feet, pain in this locality is often very persistent, and when combined with thickening at the insertion of the tendon, indicates an implication of the bursa, an affection which is extremely chronic in character.

We now come to a more important application of the subject, the relation of the affections of tendon-sheaths and bursæ to diseases and injuries of the joints. I have already indicated the importance of removal of a diseased bursa, which by its liability to acute inflammation is a source of danger, of the tendon-sheaths affected by tuberculous disease, which by extension may set up disease of a similar character in the contiguous joint and have outlined the treatment of the acute and sub-acute inflammations, because the same principles apply to the treatment of secondary affections, the result of sprains and fractures.

The relation of tendon-sheaths to joints explains an important difference in the symptoms of persistent disability in the two joints most often injured, the ankle and knee. In the former, the indications for treatment are almost always outside the joint: pain, local tenderness, and limitation of motion. In the knee, the important symptoms are inside the joint: a slight synovitis, a

[1] Revue de Chir., March 10, 1882.
[2] Gazette des Hôp., 1883, p. 1177. [3] Schwartz: Loc. cit.
[4] Garré: Loc. cit. Golding-Bird: Trans. London Path. Soc., vol. xl., p. 244. Berger: Deutsche Zeit. für Chir., vol. xxi., p. 335. Nicaise, Poulet et Vaillard: Revue de Chir., 1885, p. 609.

[1] Jalaquier: L'Union Méd., vol. xvii., p. 21. Reynier: L'Union Méd., vol. xvi., p. 895. Terrillon: L'Union Méd., vol. xvi., p. 944. Lucas Championnière.
[2] L'Union Méd., vol. xvi., p. 944.
[3] Archives Générales de Méd., 1856
[4] St. Bart. Hosp. Reports, vols. xiii. and xxi.; and D'Arcy Power: Trans. of the London Path. Soc., vol. xxxvi.
[5] Archiv. Gén. de Méd., 1882, p. 677.

thickening on either side of the ligamentum patellæ, with weakness and insecurity. Again, it is not always the deformity of a badly treated fracture of the wrist that causes the subsequent weakness, for we see cases of extreme deformity with no functional disability but the pain, stiffness, and limitation of motion of the wrist and fingers are the important symptoms. This, we may assume, is the permanent effect of injury on the tissue surrounding the joint, exaggerated in the aged or rheumatic subject.

At the wrist- and ankle-joints, with tendons of great functional activity running directly over and in grooves of the bone, surrounded by synovial sheaths, the effect of the violence which breaks the bone must cause tearing of the sheaths, effusion of blood, and subsequent inflammation of a plastic character. As in fracture of bone the amount of provisional callus thrown out is in inverse proportion to the perfect apposition and retention of the fragments, so the amount of plastic material effused in bruised and torn tendon-sheath must correspond. Yet it is the common practice in the treatment of Colles's fracture, to allow early functional use of these tendons, with the purpose of thus preventing the limitation of motion which so often follows. If we consider the proper treatment of primary affections of bursæ, complete functional rest and local compression, followed by early local massage and stimulation to aid in the absorption of effused products, it will indicate the proper treatment for these secondary affections; not early functional use, but prolonged functional rest, with early local massage and stimulation.

In old sprains about the ankle, or after fracture, we often find persistent œdema, caused I believe partly by a chronic inflammation of the tissues outside the joint and partly by impaired circulation from loss of functional use. I have, in a former paper,[1] called attention to the fact that the too early use of an injured ankle or foot causes a voluntary eversion to avoid activity, which finally results in persistent abduction, or limitation of the important movement of adduction. My attention is constantly called to these chronic sprains of the ankle, and to the entire neglect of a proper examination, which would at once show the true condition and indicate the proper remedy. The treatment usually followed in these neglected cases has been to alternate for months blistering and plaster bandages. Now, a plaster bandage applied to a joint which after an old injury is held in improper position, or when its important movements are limited by adhesions and muscular contraction, is useless and improper; but if, under ether, the adhesions are first broken up and the contracted muscles over-stretched, by forcing the foot into a position of extreme adduction or equino-varus, then the plaster bandage, which rests and protects the joint, is a most useful appliance. If this preliminary treatment is followed up by massage, support, and muscular exercise, these patients, disabled for months and years, may often be quickly and completely relieved.

The same principle may be applied at the wrist joint, whenever we find an important movement restrained by muscular or fibrous contraction. It is very important that these adhesions should be forcibly broken up, and the over-correction carried to the extreme limit at one operation; gradual stretching seems only to cause pain and to aggravate the previous condition.

The principle of treatment of all these disabilities of joints is the recovery of the normal range of motion, or if that is impossible, to place the joint in the most favorable position for the performance of its function. While in the wrist-joint deformity after fracture may often be disregarded, in the ankle it is of the utmost importance that the weight of the body should be transmitted in its normal relation to the foot, so that in deformities following Pott's fracture with functional disability, an osteotomy should always be recommended. In tuberculous disease at the ankle, when restriction of motion is to be expected, the greatest care should be observed to hold the foot in the line of the leg, and at an absolutely right angle with it.

I have had the opportunity of seeing many of these cases, in which a slight abduction of the foot and shortening of the tendo Achillis were in my opinion the causes of subsequent pain and discomfort; for with an anchylosed ankle, the heel on the ground is the one desideratum, the fore-foot as a weight bearer being regarded as of secondary importance.

In the preparation of this paper, I have collected from the miscellaneous cases applying for treatment at the Hospital for Ruptured and Crippled during the past year, cases of sprains and injuries affecting the joints as follows:

	Adults.	Children.	
Recent sprains of the ankle	13	2	
Chronic " " "	34	11	
Disability after fracture at the ankle	9	1	
Deformity " " " "	4	2	
	60	16	
Total			76
Recent injury of the knee	7	12	
Chronic " " "	56	11	
	63	23	
Total			86
Injury of the hip	5	23	
Strains of back	20	6	
Recent sprains of the wrist	7	..	
Chronic " " "	6	..	
Fracture of wrist with deformity	7	2	
Sprains of the elbow	3	2	
" " shoulder	11	2	

In these cases are not included recent or old fractures of the elbow, shoulder, or of the patella, as they do not directly interest us in this connection. It will be noted that of the 190 injured joints of the lower extremity, 128 were adults, and 62 children; of the 50 injuries of the upper extremity, 44 were adults and but 6 children.

We may assume that the great preponderance of injury of the lower over the upper extremities has a direct bearing on the relative frequency of tuberculous disease in the two localities.

The importance of careful treatment of slight injuries is emphasized by the recent experiments of Krause,[1] who found that it was often possible to produce local tuberculosis in previously inoculated animals by spraining joints; while severe injuries, fractures and the like, healed in a normal manner. In children, from their greater susceptibility to tuberculous infection, injury of a joint is a much more serious matter than in the adult. Children recover so quickly from injury that one of the most important diagnostic points in any suspicious case is chronicity, no matter what the symptoms may be.

I regret that my time does not allow me to pay particular attention to some of the points of interest in the diagnosis and treatment of the various affections that have been mentioned.

I have endeavored to call your attention to the importance of careful treatment of joint injuries, in the first instance, and to indicate the principles of treatment in chronic and neglected cases; to the importance of local treatment after severe injuries and fractures, and to the necessity of early excision of all chronic and suspicious enlargements of bursæ and tendon-sheaths.

The study of these chronic joint affections is very instructive; it teaches the importance of an accurate knowledge of the functions and anatomical peculiarities of normal joints, and as affected by injury and disease; what is to be avoided and guarded against in the acute stage; and in neglected cases the importance of treatment conducted with an object, as opposed to the routine application of remedies on general principles.

[1] Persistent Abduction of the Foot, Commonly Known as Chronic Sprain of the Ankle, New York Medical Journal, October 11, 1890.

[1] Diseases of Bones and Joints, Wood's Monographs, July, 1881.

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THE REQUIREMENTS FOR A DEGREE IN ARTS, AND IN MEDICINE.

THE *Sun* has been publishing a series of learned editorials regarding the subject of the requirements for the degree of A.B. in the very numerous colleges of this country which confer that distinction. It finds naturally a very great difference in these requirements and calls attention to the need of some more definite standard of what is meant by a liberal education.

This subject has been studied some years ago by the Ohio College Association, and recently by a committee of the American Academy of Medicine. The February *Bulletin* of the latter organization contains an account of the very earnest and diligent labors of its committee.

They recommend, in brief, that the Academy adopt provisionally the requirements laid down by the Ohio College Association, as expressing the minimum amount of study that should entitle one to a degree of B.A. or Ph.B. The college course, as laid down, includes Language and Literature, seventeen terms; Mathematics, five terms; Natural Science, six terms; Philosophy, four terms; History and Political Science, four terms. The course is not too severe, and is about that adopted by the smaller Eastern Colleges. It has the defect that it does not allow for substitution of more terms of Natural Science in place of Literature, and it calls for Greek, a language not required at Harvard.

The American Academy, however, has done a useful thing in calling attention to the subject on which it reports; for it seems that there are classical as well as medical colleges where degrees are gotten very easily.

Perhaps the most interesting chapter in the committee's report, however, is a letter from a prominent college president, sent in reply to a circular letter of inquiry regarding the minimum qualifications for a degree at his institution. The gentleman says:

"Your letter of the 5th is before me. I have answered in the usual unsatisfactory way which must necessarily be adopted as to such printed questions. I am impelled to say that the American Academy of Medicine has probably a larger work on its hands than it can soon accomplish within the circle of its own profession. It appears to me that it would be a great advance, one almost hopeless, however, if the students who enter Medical Schools could be required to have any sort of a degree before they are admitted. It was once stated before the Literary Club of Chicago, when such a subject was under discussion, by the President of an University, that in the eight Medical Schools in Chicago, not so many as *two per cent.* of the students had any degree at all. This used to be true of the Medical Schools in Philadelphia, years ago. I do not know that it is remedied yet. We lose a score of students every year, who have been with us one to three terms, or one to three years, and who leave us to go to Medical Schools. A poor student who took chemistry for one or two terms, and failed in that, is almost sure to write me in a year or two from some Medical School, and want his grade in chemistry, which will be *accepted by the school where he is.* I used to write to my friends in the medical faculties, of whom I had many, protesting against the reception of the standings we sent; but it was of no avail. I have seen the men whom we eliminated for poor scholarship graduated as Doctors of Medicine before their superior classmates who remained with us obtained their degrees of B.S. I beg to suggest, in no captious or cavilling spirit, that when your Academy has brought the Medical Schools of the United States up to the standard of the Colleges and Universities, the latter will need little looking after."

Of course a letter expressing such kindly criticism demanded a reply. In this it was stated that the Fellows of the Academy, being college-bred as well as graduates of Medical Schools, had the same right to investigate the methods of the one as of the other. To this the following reply was received:

"I thank you for the pains you have taken to inform me as to the purposes of the American Academy of Medicine. As it seems that the fences about the medical profession are all removed, or are so full of gaps as to be nearly useless, it would seem that an effort to build up within the profession itself an organization, such that membership in it should mean both merit and culture, would be both desirable and feasible."

THE DIAGNOSIS OF DIPHTHERIA AND CROUP.

THE ancient controversy over the identity of membraneous croup and diphtheria seems likely to take a new phase; and one, furthermore, which may revive the dual theory of the disease now practically abandoned. Of course it is bacteriology which will do all this. At a recent meeting of the Berlin Medical Society, Professor Baginsky (*The Lancet*) presented the results of a year's clinical and bacteriological observation of diphtheria in the Children's Hospital under his charge. Accepting it as established that the Klebs-Löffler bacillus is the specific organism of true diphtheria, he subjected 154 cases supposed to be this disease to bacteriological tests. Blood-serum was used for the cultivations, which were carried on at a temperature of 37° C. In most cases the microbes found in association with Löffler's bacillus disappeared, and there was left a pure culture of the latter, which, in a few hours, assumed its typical and easily recognizable characters. This test was supplemented by microscopical examination of dry preparations, and, in doubtful cases, by the result of inoculation on animals.

In 118 out of the 154 cases, the specific cultures were

obtained. In 45, or more than thirty-eight per cent., the patients died. Thirty-nine of these cases were associated with paralysis, 17 with severe septic phenomena, and 44 cases required tracheotomy; while only 28 (or twenty-five per cent.) ran a mild and favorable course. On the other hand, there were 36 cases of the whole group from which the deposit yielded no bacilli, but only cocci; and it is particularly instructive to note that only 4 of these were fatal, one being a case admitted with severe paralysis, another complicated with measles and dying from pneumonia, and two developing empyema. All the rest ran a favorable course, and recovered in a few days without complications. The inference drawn by Professor Baginsky from these facts is that there are two types of disease, indistinguishable in their superficial characters, marked by a deposit of false membrane on the fauces and tonsils, and associated with fever, prostration, and swelling of lymphatic glands. The one is true diphtheria, and is caused by Löffler's bacillus; it is of far greater severity than the other, which appears to be excited by staphylococci and streptococci, and runs mostly a favorable course. Nor is the latter so remarkably contagious as the former; while he has known the bacillary disease to supervene upon and prove fatal in a child who had gone through the milder affection. So convinced is he of the value of this distinction that he has devised apparatus for conducting the bacteriological inquiry as a part of clinical investigation.

In the discussion of Professor Baginsky's paper it was asserted that the bacteriological test was not a practicable one for ordinary clinical use. Still it will probably have to be used hereafter in scientific studies of diphtheria, and especially in therapeutical statistics.

Reports of results from new modes of treatment must be supplemented by a bacteriological as well as clinical diagnosis.

There seems little doubt, from Baginsky's observations, that while some cases of membraneous croup are true diphtheria, others are not.

HOSPITAL ALUMNI SOCIETIES.

The ex-members of the house-staff of the New York Hospital have organized under the name of the Association of the Alumni of the New York Hospital. There are now medical societies composed of the graduates or alumni of Charity, Bellevue, the Woman's, and, we believe, other hospitals; there is also a Hospital Graduates' Association. These societies are all interesting and valuable no doubt, but it looks as though in time the organization of ex-internes would be overdone. A single organization, like the Hospital Graduates' Society, with branches or sections, might cover the ground and take up less of the time and expense which go with carrying on all new societies.

THE COLONIZATION OF THE PHTHISICAL.

Two or three years ago the late Dr. Paul Kretschmar, of Brooklyn, read a paper strongly urging the establishment of sanitaria near large cities for the treatment of cases of phthisis. The idea was that people of moderate means should have a place where they could go, and for a small sum get all the benefits of the best modern methods of treatment instead of staying in crowded cities or uncomfortable country boarding-houses.

Not long ago Dr. S. E. Solly, of Colorado Springs, in a paper entitled "Comparative Results of Treatment of Phthisis by Climate," gave the conclusions of several of the most celebrated authorities upon pulmonary diseases, in Europe and America, and by them furnished a very convincing proof of the great advantages of treatment in closed resorts (sanitaria) as compared with that in open resorts. In a table, entitled "Comparison between Open Resorts and Sanitariums in Low Climates," he gives the following figures:

ALL STAGES OF THE DISEASE.

	Cases.	Cured. Per cent.	Benefited. Per cent.
Open resorts in low climates.....	1,724	6	46
Sanitariums in low climates	2,443	13	27½

FIRST STAGES OF THE DISEASE.

Open resorts in low climates	685	5	45
Sanitariums in low climates.....	89	31½	45

A sanitarium having somewhat the objects we have above referred to has been established at Saranac Lake, in the Adirondacks. Another has been established by Dr. V. G. Bowditch, at Sharon, Mass. Various other sanitaria, adapted for comparatively wealthy patients, also exist. The fact has been established, we think, that phthisis is best treated in places specially arranged for this disease.

We have hinted before that it is time for our great public charitable hospitals to adopt the sanitarium plan. In this city over five thousand persons die of phthisis annually. In Charity Hospital one-third of all the deaths are due to the same disease. In is a well-known fact that poor people who enter our city's hospitals, even in the first stage of phthisis, have but a small chance of recovery, while in a good sanitarium the percentage of recoveries is about fifty. The city hospitals should therefore establish a country annex where the phthisical patients could be colonized and receive appropriate treatment for their condition. As it is now, many good and all bad cases are transferred to Charity, to die a lingering death. This plan has already been adopted on a small scale by one of our rich private hospitals. It should be extended further.

We are having a great deal done for the chronic lunatics, to whom death is a release. There should be more done for the phthisical, for whom health, usefulness, and happiness is a possibility.

HOW MANY ARE THERE OF US?

Vital statisticians must be somewhat embarrassed in attempting to produce figures based on the total population of New York City. The United States Census for 1890 gave us 1,515,501 inhabitants. The City Board of Health, in the same year, estimated the population, July 1, 1890, at 1,631,232. The recent State Census gives the population as 1,800,891. Assuming that the Board of Health estimate in 1890 was correct, its present estimate, based on its former records, would be about 1,700,000. But taking the United States Census of 1890 as a basis, our present population would be about 1,600,000. Here is a difference of 200.000, enough to make a considerable city of itself. According to the last Census our death-rate

is about 27 per 1,000; according to another, about 22 per 1,000. It seems as though the greatest city of the Western Continent ought to be able to get nearer the actual truth in these matters than has been done.

It is probable that the Board of Health estimates, which would place our population at about 1,700,000, are nearest correct.

SOME COMMON DISEASES OF THE RECTUM.

MAN, and more particularly civilized man, is distinguished from the lower animals by being constipated. By reason of this, of his erect position, and from various other causes, the rectum has become at the present day the seat of a great many unpleasant maladies. Mr. Christopher Heath, in a clinical lecture on common diseases of the rectum, gives some interesting and practical facts regarding this matter.

Though constipation is not especially a rectal disorder, Mr. Heath has a few words to say about it. He states, first of all, and very positively, that the best time for persons to have a regular movement of the bowels is at night. This rule applies, however, more particularly to persons who suffer in any way upon the discharge of fæces or who have a costive habit. The reason given is that more time can then be given to the process, that the patient is or may be undressed, and can lie down afterward and rest.

Mr. Heath tells us nothing very new regarding the treatment of constipation. He suggests that in feeble and anæmic elderly persons it is not always well to force a daily passage. He approves of enemas of water and of glycerine; and he recommends a teaspoonful of sulphur in milk as a good aperient for daily use. He further says: "The difficulty which many persons experience in getting rid of a mass of fæces which has been lodged in the upper part of the rectum and become a little inspissated and hard, can be got over entirely by pressure with the finger just beyond the tip of the coccyx. There is plenty of room between the tip of the coccyx and the anal orifice for the finger to be pressed against the rectum, and you will find that the hard motion which has lodged in the rectum is pushed out through the sphincter, and being once through it is promptly passed, and the softer matter follows easily enough."

With regard to fissures, he recommends a caustic in mild cases, and stretching or a shallow cut in severer forms.

Pruritus ani is often due to ascarides, and then salt and water enemata, with thorough purgation is indicated. Pruritus not due to parasites, he treats chiefly with lotions. A five per cent. solution of cocaine, he says, is "not a bad thing," combined with attention to the bowels and general tonics. The subject of eczema as a cause is not touched upon. There occur sometimes about the skin what are termed "rhagades."

There is hypertrophy of the skin of the anus with ulceration in the cracks between the folds, which is undoubtedly syphilitic, and should be treated very much like mucous tubercles. But, he says, you will find occasionally that there are considerable outgrowths of moist skin about the anus, which are commonly called "tabs." They are not really a disease, but are only a symptom, and wherever you see them you may be sure that the woman—for they usually occur in women—has syphilitic disease of the rectum. You should at once introduce the finger, and you will probably find ulceration of the rectum of a tertiary syphilitic character, with very likely more or less stricture."

Many cases of what is called prolapse of the rectum occur in children. There is in reality, however, no true prolapse. The trouble is caused by the presence of small polypi. These are easily and safely notched with the nail and removed.

Ordinary cases of prolapse are cases simply of debility, the child is of weak habit altogether, and the bowel has got into the way of coming down on very slight occasions. The great thing is to break through the habit. With a circular opening like the anus very little will bring down the mucous membrane through it, but, says Mr. Heath, "if you can get the mother to hold the child when it is going to have an evacuation, and to put the finger down the verge of the anus and draw on one side, and thus convert the circular opening into an elongated slit, then the mucous membrane is considerably puzzled to come down, and practically it does not prolapse. What I always promise mothers is that, if for one week they will take the trouble to do this, and so prevent the bowel from coming down, the case will probably be cured. In addition to that little manœuvre it is well, of course, to brace up the bowel by throwing in cold water with an enema syringe, both before and after evacuation, and to give the child a tonic, particularly an iron tonic."

Ordinary cases of prolapse are easily cured, but sometimes the entire end of the bowel comes down, and then the treatment is more difficult. Mr. Heath recommends the cautery. The method is to draw a series of vertical lines upon the prolapse, and then, under chloroform, to put the part thoroughly back, and with the cautery to cut two or three deep grooves in the anus itself, because in these cases it is enormously dilated, and, unless one thoroughly contracts up the anus, no power will keep the bowel within. Then, of course, one must lock up the bowels with opium, and keep the patient carefully in bed.

THE FUTURE OF THE LITTLE TOE.

MR. R. C. LUCAS, in common with the comparative anatomists, says that the little toe has got to go. It is a useless little appendage, and almost as much out of date as the pineal gland. It has already lost one of its extensor tendons. We are further told that the second and third phalanges of the little toe are, after a certain period of life, commonly found anchylosed, which is a further proof of the downward descent of this appendage. The future of the human foot would appear to be a gradual suppression from without inward of the toes, and a further strengthening of the great toe line on the inner side. That this is all that is required is abundantly proved by observing the thousands who, even at the present time, use only the great toe as a means of progression. "I was," Mr. Lucas states, "much interested some few years ago by observing the foot of one of the finest athletes of the day. He was an All-England three-quarter at football, a champion short- or mid-distance runner, and the finest football kick of his day; yet he wore a boot so narrow that only the great toe could approach near to the end of it. All this

brilliant performance was done by the great toe alone, and he showed on the running path and in the football field that swiftness, agility, and strength were, so far as the foot is concerned, centred in the line of the great toe." Mr. Lucas quotes the following clever poem, published in *Guy's Hospital Gazette*, and entitled "Digiti Minimi Decessus:"

"If thou must go, thou feeble, foolish digit,
Fain would I speed thy slow degenerating way!
I daily feel a disagreeable fidget
Whenever I've occasion to display
Thy doubtful outline, and thy form chaotic
(Born of a taste in boots, perhaps erotic).
Thou art a shock to my æsthetic sense,
And offerest no kind of recompense
In way of use; of every function shorn,
Except to act as basis for a corn.
When thou art gone I'll still maintain my grace,
Still walk erect wherever I may be;
Still I'll belong to the athletic race,
Waltz with the fair, and kick my enemy!
So *pace* Schopenhauers, and *pace* Mallocks,
When I've acquired a hypertrophied hallux,
To monodactyle type thus simplified,
Life shall be simpler too, and so—beatified.

"When future science forgets thee in thy prime,
Methinks a great mind from a northern clime
May then discuss thy remnants, and declare
He finds a true *prophetic organ* there!"

THE TREATMENT OF MYOPIA WITHOUT GLASSES.

THE tendency of oculists to prescribe glasses for muscular refractive troubles of the eye is apparently increasing. Many recommend glasses for slight insufficiencies of the ocular muscles, still more advise glasses for slight degrees of hypermetropia and astigmatism. The number of spectacled children is nowadays enormous and is yearly increasing. We are not prepared to deny that the glasses thus prescribed are not needed, or that the patients are not always greatly benefited by them. Yet it seems as if possibly the thing were a little overdone. The patients are, perhaps, in a measure to blame, for few who go to the oculist for weak or defective vision are quite satisfied if they do not get a prescription for glasses at least.

We feel some interest, therefore, in the assertions of Dr. W. H. Bates (*New York Medical Journal*) that myopia can be improved by medical and other treatment, so that in some cases patients can get along without the use of glasses.

Dr. Bates's method seems to consist mainly in using atropine, giving nasal treatment and tonics. Counter-irritation over the spine or temples is also employed. The practice of using atropine for myopia is an old one, and we do not find anything especially novel in Dr. Bates's suggestions. But it is possible that good might come from a more general attempt to lessen the degree of myopia before compelling the patient to put on his crutches.

Marine Hospital on Martha's Vineyard.—The Government has accepted six acres of land at Vineyard Haven as the site of the new Marine Hospital. The tract is situated on the bluff across the harbor from the village of Vineyard Haven.

News of the Week.

New Laboratories in Chicago.—Both the College of Physicians and Surgeons and Rush Medical College have had plans perfected for spacious additions to present buildings, to be used for laboratory purposes. Space for laboratory instruction and work is sorely needed by both institutions, the present arrangement being entirely inadequate to the demands.

Health Commissioner vs. Physician.—At the last (March 7th) meeting of the Chicago Medical Society, the following resolution, signed by a large number of practitioners, was adopted: "*Whereas*, There exists a deep and wide-spread feeling of indignation at the unceremonious harshness with which many of the physicians of Chicago have been treated by the present Commissioner of Health, we, the undersigned, are of the opinion that it falls within the province of the Chicago Medical Society to institute an inquiry into the nature and cause of such dissatisfaction. We therefore ask that such an investigation be made, not in any hasty or partisan way for the purpose of defaming or glorifying the character of anyone, but in order to determine in a calm and judicial manner the rights and privileges of all parties concerned, and to suggest measures for the relief of the present discontent. We are convinced that a proper regard for the self-respect of every physician, and for the dignity and honor of a learned profession, render such action appropriate and necessary at the present time."

A Law to Regulate Embalming.—The following is the text of a bill introduced in the State Senate by Senator Smith and referred to the Committee on Judiciary: The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION I. Section three hundred and six of said code is hereby amended so as to read as follows:

§ 306. DUTY OF BURIAL. Except in cases in which a right to dissect it is expressly conferred by law, every dead body of a human being, lying within this State, must be decently buried within a reasonable time after death, unless preserved by suitable embalming, which is hereby permitted only in the following cases:

1. It shall not be lawful for any person to inject any substance into, or to embalm, any human dead body without previously having the written consent of the physician who attended the deceased in his or her last illness, or of the coroner having legal custody of such dead body; except as provided for in this Chapter.

2. No person shall inject into, or place upon, any human dead body any arsenic, or any substance or solution containing arsenic, mercury, zinc, or carbolic acid; except as provided for in this Act.

3. Nothing in this Act shall prevent the use of liquids containing arsenic, zinc, mercury, or carbolic acid for the disinfection of the bodies of persons dead from contagious diseases, by officers of any Board of Health; or for the preservation of bodies for dissection in a legalized medical college.

4. Any person violating any of the provisions of this section shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished with a fine of not less than fifty dollars, nor more than two hundred dollars; or

by imprisonment not exceeding one year, or by both such fine and imprisonment.

SECTION II. This Act shall take effect immediately.

The Keeley Cure has established a weekly organ.

Guy de Maupassant, the novelist, now insane, was a morphine user. In his novel "Horla," he has described with wonderful vividness the effects of this drug.

The Cuban Degree of M.D.—The Spanish Minister of Foreign Affairs has proposed to take away the power of the University in Havana to grant the degree of M.D., thus reducing it to the position occupied by other Spanish Provincial Faculties which can only grant a license. A large petition has been sent, begging that the Government will reconsider the proposal.

An Endowment for a New Museum in Philadelphia.—The University of Pennsylvania has recently received a gift of nearly three-quarters of a million of dollars for the erection of a biological and anatomical museum to cost nearly $200,000, and a yearly endowment of $30,000 for its maintenance. The donor desired that his name should not be published until all the designs had been completed and the "Wistar Institute of Anatomy" founded; but it has transpired that the generous donor is General Isaac J. Wistar, of Philadelphia, whose uncle, Dr. Casper Wistar, was at one time professor in the medical department of the University, for whom the proposed building is intended as a memorial.

The Pan-American Medical Congress in the West Indies.—Dr. F. W. Hutchinson, of Providence, R. I., who has been appointed Assistant Secretary-general of the Pan-American Medical Congress for the British West Indies and Venezuela, is now visiting the islands of the Spanish Main in the interest of the Congress. He is vested with power to make appointments for those countries.

A Medical Club Where "Shop Talk" is Forbidden.—The Flint Club, of Baltimore, is an organization devoted to gastronomics and diversion. Its membership of thirty or more hold monthly reunions where medical talk is tabooed; all professional cares and successes are alike forgotten for a time at the portal. Whatever may have been the intention of the members when they named the club in honor of the dignified and stately Flint, the appropriateness of the appellation to the person honored is not always visible. The plainest kind of English is spoken to the guests—freely enough admitted, if they are willing to submit to the initiatory rites—and to the members who make any remarks that are not absolutely original. The etiquette of the club must be observed by guests, whether they comprehend it or not. On one occasion a visitor was called upon to speak and to hush at the same moment—and he complied by addressing the members in the sign language, and by so doing for once staggered his hosts.

The Oregon State Board of Health has adopted a rule defining a medical institution in good standing to be one requiring three regular courses, or sessions, of six months each, extending over a period of three years' time. A physician named Barwood was refused a certificate on the ground that the school from which he had graduated did not have such three years' course. He brought the case before the Circuit Court, and a decision adverse to the power of the State Board to make such distinction was rendered. On appeal to the Supreme Court this decision was overruled and the authority of the State Board was sustained. This decision will go far toward settling the disputed question of the authority of State Boards of Medical Examiners to make such rules.

Clearing up our Nosology.—Dr. G. M. Giles, of India, has done a valuable work in clearing up some errors regarding a certain endemic disease of Ceylon, Assam. He finds that the so-called beriberi, or infectious neuritis of Assam and of Ceylon, is not a neuritis but an infection due to the presence of anchylostoma duodenalis, or, as he terms it, an anchylostomiasis. Another local name for it is "kala-azar."

Sir Spencer Wells is visiting India.

Another Case of a Ramrod through the Brain.—An Australian journal gives the following case, which is nearly as remarkable as the crow-bar accident to Mr. Phineas Gage: "Robert Campbell, a young man connected with the Postal Department, was admitted to the Melbourne Hospital, with a pistol ramrod through his brain. The story of the accident is that Campbell was out shooting with a muzzle-loading pistol. While he was ramming home the charge the weapon exploded, and the ramrod, which was composed of fencing wire, with a lead plug at the end, made by the victim, was sent through his cheek across the eye, and came out at the top of his head. Dr. Harris stated that when the man was admitted to the hospital it was found that the ramrod had passed through his cheek, on the left side of the nose, into the infraorbital plate of the superior maxilla, right through the eye, going in its course through the superior orbital plate of the frontal bone, the brain, and coming out at the top of the skull, about the middle of the internal portion of the parietal bone. The wire portion of the ramrod was sticking out of the skull about six inches. Dr. Charles Ryan, assisted by Dr. Harris, trephined the skull, having first cut off the wire. When the bone was removed, the leaden base came with it, and the eye, which had been completely destroyed, was taken out. Antiseptic lotion was then syringed through the eye-socket, along the course the ramrod had taken, and by this means the wound was well washed. The night after admission of Campbell his temperature was about 110° F.; but during the next four days it came down to normal, 98.4° F., and since then he has made an uninterrupted recovery, and is now convalescent."

Exercise is a bad thing for nervous and consumptive persons who go to Colorado. According to J. T. Eskridge (*The Climatologist*), the advice often given by physicians on sending patients is: "'Go to Colorado; live in the open air as much as possible; live on horseback all day long; herd sheep or drive (punch) cattle.' The first part of this advice—'live in the open air as much as possible'—is excellent, but the remainder is simply murderous for nine out of every ten consumptive patients who go to Colorado."

Professional Manners.—S. Weir Mitchell, M.D., in his interesting sketches entitled "Characteristics," now running in *The Century*, discusses entertainingly the manners of the doctors and their influence on their patients (*Medical Age*). There is no place, he says, where good breeding

has so sweet a chance as at the bedside. There are many substitutes, but the sick man is a shrewd detective, and, sooner or later, gets at the true man inside the doctor. There are men who possess cheap manufactured manners, adapted, as they believe, to the wants of the sick-room. According to the man and his temperament do these manners vary, and represent sympathetic cheerfulness or sympathetic gloom. They have their successes and their commercial value, and may be of such skilful make as to deceive for a time even clever women, which is saying a great deal for the manufacturer. Then comes the rarer man who is naturally tender in his contact with the sick, and who is by good fortune full of educated tact. He has the dramatic quality of instinctive sympathy, and, above all, knows how to control it. If he has directness of character too, although he may make mistakes (as who does not?), he will be, on the whole, the best adviser for the sick, and the completeness of his value will depend upon mental qualities which he may or may not possess in large amount. But, over and above all this, there is some mystery in the way in which certain men refresh the patient with their presence. Every doctor who has this power, and sooner or later he is sure to know he has it, also learns that there are days when he has it not. It is in part a question of his own physical state; at times the virtue has gone out of him.

The Health of School Children.—According to Dr. Francis Warner (*The Lancet*) there is a large group of children, amounting to nearly three per cent. of the children seen, who are so far defective in make as to be usually of low nutrition when seen in school. This fact is more marked in the 36,000 children in day schools; among them twenty-three per cent. of the boys and thirty-eight per cent. of the girls who presented defects in development were noted as of low nutrition. It appears that these children are of lower general constitutional power, and tend to an ill-nourished condition under the stress of life and the many causes of mental excitement which, while they render them sharper mentally, militate against nutrition of the body and its tissues. That the amount of mental stimulus received by children does lower their general nutrition, seems to be further indicated as follows: If we divide the 36,000 day scholars into two groups of 10,200, seen in day schools of the upper social class, presumably well-fed children, we find 5.2 per cent. of low nutrition, and among the 25,800 children in poorer day schools, 3.9 per cent. The only explanation to be offered is that the upper-class children have more stress upon them than those of poorer social position.

A Rowdy Medical Society.—One of the societies which is acquiring quite a reputation for rows, says the *Weekly Medical Review*, is the St. Louis Medical Society. It would almost appear that an effort is being made to acquire a national reputation in this respect. Other medical societies, the *Review* adds apologetically and truthfully, also have their troubles, but turmoil seems to be accentuated in St. Louis.

St. Louis Medical College Commencement.—The St. Louis Medical College conferred diplomas upon eighteen young men, March 10th. The St. Louis College of Physicians and Surgeons conferred diplomas on eighty-three, March 14th. The Missouri Medical College held its Commencement exercises on March 15th. The number of graduates who received diplomas was fourteen.

The Cause of the Lesions and Symptoms in Diphtheria is the tox-albumin produced by the growth of bacilli. Such is the conclusion of recent experiments made by Dr. William H. Welch, of Baltimore.

Ether as a Stimulant at the Temperance Hospital.—*The Lancet* says a correspondent of a contemporary expresses surprise that, at a public meeting at the Temperance Hospital, it was announced that the internal use of ether is allowed in the hospital in place of alcohol. We cannot think that there is much to justify this difference. Ether-drinking is a vice which has only lately in Ireland assumed grave proportions, requiring special legislation. It is affectation to regard the use of such an agent as morally or physically better than the use of approved forms of alcohol.

The Proper Purgatives in Intestinal Dyspepsia.—Of course only the milder laxatives, and such as disturb digestion the least, are to be thought of. Rhubarb, senna, aloes, sulphur, cascara, magnesia, are among the best. A favorite combination is equal parts of pulverized rhubarb and cardamom seeds; dose, a teaspoonful. Germain Sée prefers the old formula of sulphur, cream of tartar, and magnesia, of each equal parts; Dujardin-Beaumetz, the compound licorice powder. The aloin, strychnia, belladonna, and ipecac pill is an excellent one. "The remedy," says Dr. G. B. Wood, "which we have found most effectual in the permanent cure of a disposition to the accumulation of flatus in the bowels, is an infusion made with half an ounce of colombo, half an ounce of ginger, a drachm of senna, and a pint of boiling water, and given in the dose of a wineglassful three times a day."—*Boston Medical and Surgical Journal.*

Memorial to Sir Morell Mackenzie.—Lord Calthorpe, who has had charge of the fund for the erection of a memorial to the late Sir Morell Mackenzie, has announced that the fund will be devoted to the erection of a permanent addition to the Hospital for Diseases of the Throat, which was founded by Dr. Mackenzie in 1864, and with which he was connected until the time of his death.

The Long Island College Hospital held its Thirty-fourth Annual Commencement on March 23d, and graduated a class of sixty-four.

Influenza in Boston.—The Board of Health of Boston has just issued a tabulated report of all deaths from influenza occurring in that city, between December 12, 1891, and February 29, 1892, arranged by ages, nativity, parentage, etc., from which it appears that the total number of fatal cases was 77 males and 128 females. Of these 72 were non-complicated. The 133 remaining were complicated with sixteen different conditions, the most important of which was pneumonia, giving 58. The next most frequent complications were bronchitis, 27; heart disease, 14; old age, 13; and phthisis, 8.

The Section on Gynecology and Abdominal Surgery at the Pan-American Medical Congress.—This section has been organized by the election of Dr. William Warren Potter, 284 Franklin Street, Buffalo, as Executive Chairman, Dr. Brooks H. Wells, 71 West Forty-fifth Street, New York, as English-speaking Secretary, and Dr.

Ernst W. Cushing, 168 Newberry Street, Boston, as Spanish-speaking Secretary. The foreign secretaries of the section so far elected are: The Argentine, Dr. Don L. C. Maglioni Llobet, Victoria, 737, Buenos Ayres; Brazil, Dr. Don Luiz da Cunha Feiho, Rio de Janeiro; British North America, Dr. James F. W. Ross, Toronto; United States of Colombia, Dr. Don Jose M. Buendia, Calle 10, No. 212, Bogota; Nicaragua, Dr. Juan I. Urtecho, Calle Real, Ciudad Granada; Spanish West Indies, Dr. Don Gabriel Casuso, Virtudes 37, Habana, Cuba; Uruguay, Dr. Don Enrique Peréy, Uruguay 371, Montevidio.

Another Swindler.—A swindler who claims to be an old schoolmate of Dr. A. P. Gerster, of this city, is calling on physicians, selling what is claimed to be a gas-burner of his own invention, and after receiving the money therefor departs, with a promise to deliver the goods, which of course he neglects to do. He has been practising in this way in many neighboring towns, probably claiming acquaintance with other prominent gentlemen in different localities, in order that he may gain an audience.

A Large Dose of Sulphonal.—Dr. Ernst Neisser relates in the *New England Medical Monthly* for January, 1892, the case of a lad, fifteen years of age, who took one hundred grammes (about three ounces) of sulphonal at a single dose. The drug was finely powdered and was washed down with copious draughts of water, and the boy was not seen until six hours later, so that a very large proportion of the drug must have been absorbed. He slept soundly without awaking for five days, but was not in full possession of consciousness until the seventh day. On the ninth day he was discharged from the hospital in perfect health.

A Strange Law.—It is stated in the *Lancet* that a fellow of the College of Physicians is hindered by the by-laws of his College from enforcing payment of his fees in a court of law.

A Moral City.—The *North American Practitioner* of Chicago says that a manufacturing chemist of that city recently received an order for five million aphrodisiac pills.

Aluminium in the Urine.—Dr. R. Jamin has reported a case in which chemical examination of the urine showed the presence of phosphate of aluminium. It was impossible to discover any cause for this unusual excretion.

It Probably Do.—A correspondent from Rosindale writes to the editor of the *North Carolina Medical Journal* to ask: "Do blowing a harp injure the eye-sight?"

Intubation in Russia.—Dr. Jakubovski, a Russian physician, records the following as the result of his experience with intubation of the larynx: 1. Intubation is an operation less dangerous and less difficult than tracheotomy. 2. The inconveniences of intubation are: (*a*) The patient should be under the constant charge of the physician; and (*b*) the introduction and removal of the tube provokes disagreeable symptoms. 3. Secondary pneumonias follow more often intubation than tracheotomy. 4. In croup limited to the larynx and to the superior part of the trachea, intubation is the procedure necessary. 5. In a diffuse croupous inflammation of the larynx, trachea, and bronchial tubes, tracheotomy is the operation required.—*Buffalo Medical and Surgical Journal.*

Public Baths in Boston.—The *Boston Medical and Surgical Journal* states that a company, to be known as the Boston Bath-house Company, is soon to be incorporated to establish baths for the poor of Boston, following the steps of the chief European cities, and the recently established People's Baths in New York. There is already a small establishment of this kind in Boston, where, during the first year, three thousand men, women, and children made use of it. It is hoped that after the baths are established they will be self-supporting. About forty thousand dollars are needed for the establishment of the institution.

Umbilical Hernia without True Hernial Coverings.—Referring to a case of congenital umbilical hernia reported recently by Dr. Benedict in these columns, Dr. J. S. Hackney, of Uniontown, Pa., recalls a case reported by him in the *Medical and Surgical Reporter* some years ago. The child, when born, was seen to have a tumor the size of a man's fist over the umbilicus, its only covering being the transparent peritoneum, through which could be seen the intestines. There was an entire absence of the abdominal parietes for a distance of two inches around where the umbilicus ought to have been. The cord was attached to the lower margin and to the right side of the tumor. The child lived three days, having several movements of the bowels, took nourishment, but would not nurse, and died then from general peritonitis. No attempt at reduction was made, owing to the development of peritonitis a few hours after birth. The mother had been in good health during gestation, but her surroundings were such as she had not been used to. She had recently moved into a house which was cold and damp, and had had a great deal of mental worry on account of her children, who were almost constantly sick from the bad hygienic surroundings.

One Hundred and Fifty Corpses were cremated in Paris in 1891, as against fifty the year before. The municipal authorities have recently decided that the bodies of those dying in the hospitals, unclaimed by friends, shall also be cremated, so the number of incinerations in 1892 may be expected to be very large.

A Test for Butter.—It is difficult to guard against adulteration in some articles of food, except by lengthy scientific analyses. In the case of butter, chemical analysis is important; but, *en revanche*, M. Georges Pouchet, in the *Journal de l'Agriculture Pratique*, reminds his readers of Dr. Pennetier's method. A small fragment of butter is bruised between two object-glasses, and examined under the microscope with polarized light, above a selenite lamp. If the butter be pure, nothing particular is observed; but if it contains a trace of margarine or butter which has been melted, beautiful stars, bright with all the colors of the rainbow, are seen.—*British Medical Journal.*

Sir Morell Mackenzie's Fees.—It is said that the sum of $60,000 was paid to the late Sir Morell Mackenzie for his services to the Emperor Frederick. A few months before his death he received from a London barrister over $500 for the removal of an elongated uvula. It is also said that Sir Morell made application, about a year ago, for $50,000 life insurance to the Mutual of this city, but failed to pass the medical examination.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 17, 1892.

R. C. M. PAGE, M.D., VICE-PRESIDENT, IN THE CHAIR.

Discussion on the Varieties of Pneumonia and Their Treatment.—The meeting was held under the auspices of the Section on General Medicine, the chairman of which, Dr. A. Alexander Smith, occupied a seat on the platform.

DR. E. G. JANEWAY opened the discussion, which was limited almost exclusively to a consideration of the abortion, the treatment, and the symptomatology in connection with the treatment of the croupous form of pneumonia. Dr. Janeway had seen several cases in which chill and other symptoms occurring in persons of the age at which pneumonia was most likely to occur, and at a season when pneumonia was prevalent, led him to believe that this disease was about to develop, and that it was aborted by appropriate measures. Of course, the physical signs had not yet shown themselves, and it was hardly possible to say positively that pneumonia would have developed, except for the treatment. Inasmuch as where the attack took its own course in some cases, the crisis came at the third day instead of at the fifth, might it not be that this was a form of abortion of the disease? Since some cases terminated earlier than others, and ran a milder course, might not early treatment abort a threatened attack? The methods which he had adopted, where he had seen the patient within half an hour to an hour after the chill, had had for their object to drive the blood to the surface, to control the heart and quiet the nervous system. Among appropriate measures were the hot foot-bath, liquor ammonia acetatis, and aconite.

As to the necessity for reducing the fever in pneumonia, he thought it depended much upon the effect it was producing upon the heart and nervous system. As to the antipyretics to be used, he still thought well of the coal-tar series, in spite of the disfavor which they had lately fallen into. It was necessary, however, to watch their effects, and to remember the apparent variability in their purity as manufactured by different chemists. Phenacetine had seemed to him to vary least in its effects, probably because of its greater purity than antifebrine, which formerly he had thought well of. In a certain proportion of cases these remedies did good, while their use was attended with perhaps less harm than cold sponging, or the cold pack. The speaker emphasized the necessity for administering whatever remedies were employed for the effect they produced, never adopting routine dosage, and never giving more than just enough to produce the desired result. Better begin with a small quantity and work up. These precautions were especially applicable to digitalis and other heart-tonics. Objections had been offered to the use of digitalis in pneumonia, but Dr. Janeway still found it one of the most reliable cardiac tonics in this disease. It required watching, however, and should be given at sufficiently long intervals to obviate cumulative action. In dosage, where sole reliance could not be placed upon the effect of the remedy, which might not follow immediately, he said it was important to take into consideration the weight of the patient, as well as the age and susceptibility, or idiosyncrasy. There were other reliable cardiac tonics, such as strophanthus, spartein, etc. Strychnia, or nux vomica, acted favorably upon the heart as well as upon the nervous system. Again, use the smallest dose which would achieve the result. Caffein and nitro-glycerine were also useful.

Dr. Janeway said he had seen six cases with recovery in which three lobes were involved. In some of these, and in other cases of extensive pneumonia in which there was danger from asphyxia, oxygen had been valuable. It tended to quiet the patient, produce sleep, regulate the heart, and prevent cyanosis. In the six cases mentioned, alcohol and digitalis were among the stimulants used.

Regarding opium, he would not use it as routine practice in pneumonia, but if it were necessary in order to allay pain, he would give it for that purpose.

As to relapses, while some had objected to the use of this term, he did not. Relapses sometimes took place after some days in spite of attempts at prevention.

Speaking of alcoholic stimulants, he said he could not oppose their use, for he had himself taken as much as seven quarts of brandy in ten days during an attack of pneumonia from which it was supposed he could not recover. The danger was in beginning their use too early.

A Varied Experience.—DR. WILLIAM H. THOMSON related his experience with several methods of treating pneumonia, which had come into vogue since he began practice. At the outset of his medical career he had adopted the method recommended by Hughes Bennett, who then was waging war against blood-letting in pneumonia. He gave salines, sweet spirits of nitre, suitable food, and looked after his patients in a general way, yet his mortality was greater in New York than was Bennett's in Edinburgh. Then he tried the method of giving five grains of carbonate of ammonia every hour. Then he resorted to the German method of giving doses of thirty grains of quinine in a few cases, but soon stopped that. Then came from the same source the method of applying ice-bags, and he tried this and read a paper in which he related fifteen cases thus treated, ten of which died. After this the newspapers had much to say against an exclusive system of treating pneumonia. He had not tried ice-bags since. Then he took up treatment with antipyrin a while, but dropped that too. About this time the conviction had grown upon him that pneumonia was a systemic disease, with a local vascular disturbance like in other systemic diseases, and that it was of infectious nature. To-day there was no question in his mind that croupous pneumonia was a specific infectious fever, quite as specific as erysipelas, to which it was, he said, closely allied. The local expression was in the lung, and spread, as erysipelas did, by continuity. Like in Asiatic cholera, the management of a case of pneumonia must vary according to certain facts, and the results would vary equally according to those facts in spite of equally good treatment. Pneumonia in some localities was of a severer type than in others. That would account for Bennett obtaining better results in Edinburgh than he in New York by the same plan of treatment. Again, in the same locality, some individuals succumbed more readily than others; their constitutions were more susceptible to the influence of the disease. Healthy emunctories went far toward lessening the severity of the disease. This was perhaps more true of the intestines than even of the kidneys. General endarteritis increased the dangers, especially that of pulmonary œdema. These remarks showed, he thought, why there were and must be such various modes of managing cases of pneumonia, unless we should find a means for inducing immunity against the disease; or of combating the influence of the micro-organism which caused it. At present we had to rely on meeting the symptoms. During the acute stage he gave aconite. If there was pain he did not hesitate to go back to a mode of blood-letting, that is wet-cupping. He then waited, watching the heart, trying to ward off heart-failure. For heart- and nerve-tonic he thought it wiser to combine several than to rely upon a single one, since the latter might fail until given in harmful doses. The reasoning was analogous in giving the compound cathartic pill in preference to giving only colocynth in quantities sufficient to produce the same result. He would combine nux vomica, digitalis, and strophanthus, perhaps also nitro-glycerine. The last-named drug was useful in off-setting the tendency of digitalis to produce contraction of the arterioles.

Coal-tar Antipyretics Objectionable.— Dr. Thomson was opposed to the use of the coal-tar series of antipy-

retics because of their tendency to weaken heart action as well as other muscular action. Fever was only a symptom. When the temperature was low and the heart weak, he gave full doses of digitalis combined with muriated tincture of iron. He had found oxygen very useful in cyanosis, whatever might be the explanation of its action. He was afraid of opium, and gave it only when obliged to, to relieve pain. Combined with chloral in camphor, it was less likely to produce pulmonary œdema.

Three Classes of Cases for Treatment.—Dr. R. W. Wilcox thought the remarks of Dr. Janeway had been very judicious. He had endeavored to classify his cases, and to make the treatment as simple as possible. There were at least three classes. Pneumonia occurring in a robust adult of good habits called for different treatment from that occurring in a broken-down, alcoholic subject; and that occurring in the young required different treatment from that in the old. The three classes, then, were the comparatively young, healthy subjects of good habits; the broken down, and of bad habits; and the aged. If he saw a case the first twenty-four hours, he gave aconite or veratrum, preferably the latter, hoping thereby to control the circulation and limit the extent of the lung process. He did not begin administering cardiac stimulants until there were evidences of cardiac inefficiency. If the pulmonary second sound were accentuated in proportion to the lung trouble, he felt no apprehension; as soon as it weakened and there was increased dyspnœa and number of respirations, he gave heart-tonics. He often used strophanthus and nitro-glycerine, and sometimes strychnia or nux vomica. He gave milk diet. In high fever he had sometimes used phenacetin, well guarded with alcohol; sometimes sponging with alcohol and water; in one case the ice-bag. Avoid opium as far as possible. If the pain were pleuritic the cold coil would do much to relieve it. In alcoholic subjects he obtained better results since he had started off with half-ounce doses of the infusion of digitalis with some chloral added. A single dose of sulphonal, one or two nights, was also desirable. In old and broken-down subjects the treatment should be stimulating from the first. Say carbonate of ammonia given in milk, frequently repeated; with weakened second sound of the right heart and increased respirations, add strychnia. Caffein was valuable also. He did not believe the type of pneumonia was changing, nor that locality had to do with its severity.

About Mustard, Calomel, Opium, and Oxygen.—Dr. George B. Fowler believed that pneumonia could be aborted. He believed that an ordinary case, occurring in a robust adult, did not require much treatment. He gave no alcohol until it seemed essential. He allowed food which was easily digested, but not necessarily fluid, if the stomach were not disturbed. If there was evidence of heart-failure or dyspnœa he gave digitalis. In certain cases opium was very valuable. In Bellevue it was his rule to give small doses of opium combined with calomel.

To induce abortion of a pneumonia he relied almost solely on counter-irritation. Usually he put on the strongest mustard he could get.

He was sceptical regarding the value of oxygen, but meant to try it again and use it more freely. In pyrexia he had no confidence in the so-called antipyretics, but relied on cold bags.

Thinks the Duration of Pneumonia Cannot be Shortened.—Dr. W. H. Katzenbach said there seemed to be unanimity of opinion that pneumonia was an acute infectious disease, that its duration could not be abridged, and that the treatment must be symptomatic. In other words, that it must be treatment of the patient suffering with pneumonia. In severe pleuritic pains he strapped the affected part with adhesive plaster, and avoided opium if he could. For the relief of dyspnœa, oxygen had given good results in all cases. He thought that usually its employment had been delayed too long. He had used strychnia a great deal; also nitro-glycerine to relieve dyspnœa as well as the heart. In pyrexia he sometimes used the pack, but oftener sponged with hot water and alcohol, and gave small doses of antipyretics, say of acetanilin. There was no necessity for reducing the temperature below 102° F. He was glad no one had suggested the use of poultices or the oiled-silk jacket.

Would not Give Digitalis.—Dr. Van Santvoord was in accord with Dr. Janeway regarding the possibility of aborting pneumonia Regarding poultices and the oiled-silk jacket, they tended to keep up rather than to reduce the temperature, and helped to exhaust the patient's strength. As to cardiac stimulants, he entertained the general prejudice against digitalis except where there was marked cardiac irregularity. One objection to it was that it was slow in action. He preferred caffein. Strychnia and atropia were useful.

Relieve the Right Heart, Dilate the Arteries.—Dr. Andrew H. Smith recognized in pneumonia an infective disease, one in which there was a systemic condition and also a pulmonary condition, there growing out of the latter certain difficulties with the circulation. In one class of patients the systemic affection was light, and the patient complained little and got along well, although there might be considerable lung involvement. These patients did well under almost any line of treatment which was not actually harmful. In a second class the disease was severe from the beginning; severe chill, delirium, fever, etc. They died apparently from the intensity of the poison, without waiting for the effect upon the lung. In a third class the danger lay with the circulatory apparatus. It was not so much a question of the heart as a whole, but of the right side of the heart. There was a dam thrown across the venous circulation of the lungs; there was more blood in the veins and less blood in the arteries than there should be. Formerly in this class relief was given by blood letting. The objection to this was the waste of the vital fluid. Could this not be avoided by transferring the blood from the venous to the arterial side? In order to accomplish this, the arteries must be dilated, which he thought was best accomplished with nitrate of sodium. He preferred this to nitro-glycerine or nitrite of amyl, because of its greater permanency of action. The dose was two or three grains, preferably by the rectum. Alcohol was very useful for two reasons: first, it was an arterial dilator; second, it was, in small quantity, a food which was quickly applied to the needs of the system. As to feeding, it was injurious to have the bowel distended with undigested and fermenting food; it was also injurious to give more food than the system required under the circumstances, even if it were digested and absorbed into the circulation. Acting on these suggestions, they had, during his last term of service at the Presbyterian Hospital, treated twenty-three cases of pneumonia with only three deaths, which he regarded as a good showing. One of these patients was practically moribund when he entered.

Dr. Janeway, in closing, cautioned against giving food which would cause distention of the abdomen and produce pressure on the diaphragm.

The Medical Library at Washington.—On the reading of a communication from Dr. A. Jacobi, the Academy adopted resolutions opposed to the reduction by Congress of the usual annual appropriation of ten thousand dollars to five thousand, for the National Medical Library at Washington.

Antipyrin for Whooping-cough.—Dr. Feer reports eighty cases of whooping-cough treated with antipyrin; as many decigrams being given as the child is years of age, which would make a gram for a child of ten, morning and evening. He regards it as a very valuable remedy, but cannot be characterized as a specific. Whether it acts as a germicide or sedative cannot yet be definitely ascertained, but the balance of evidence inclines to the latter hypothesis.—*The Medical Press*, January 13, 1892.

Correspondence.

THE HEALTH RESORTS ON THE RIVIERA.

III.—Cannes (Continued from p. 363).

(From our Special Commissioner.)

THE PHYSICIANS OF CANNES—WINTER SEA-BATHING—A STUDY OF VITAL STATISTICS—PRESENT METHOD OF DRAINAGE—THE NEW SYSTEM OF SEWAGE DISPOSAL—INDICATIONS AND CONTRA INDICATIONS — OUT-DOOR LIFE AND AMUSEMENTS—WALKING BETWEEN NICE AND CANNES—THE REUNION CLUB—THE NEW GOLF CLUB—THE NEW CASINO—BEAUTIFUL GARDENS AND RARE FLOWERS.

THE medical fraternity here is well represented by eminent talent belonging to various nationalities. Some of the most distinguished physicians hail from England. This, for obvious reasons, is as it should be. There are so few American families among the annually-returning winter residents that an American doctor would probably spend most of his time in a profound study of the attractive features of an empty office in a dear neighborhood.

The bachelors of Cannes also point with pride to the presence there of an accomplished medical maiden, named Agnes McLaren. At last accounts, Agnes was holding her own against all competitors of the sterner sex.

From the long list of doctors published in the *Annuaire des Alpes Maritimes*, 1892, the following alphabetical abridgment is selected: Dr. Battersby, English; Dr. Bright, English; Dr. Cazalis, French; Dr. Duke, English; Dr. Frank, English; Dr. Girard, oculist; Dr. McLaren, English; Dr. de Valcourt, French.

Dr. de Valcourt speaks English so fluently that his French origin would hardly be suspected. He is the Consular Agent of the United States.

Dr. Philip Frank has been a winter resident of Cannes for twenty-six years. He is far-and-away the best known, and certainly one of the most justly eminent, men in the Riviera. Dr. Frank has his office apartments in the city, but lives in the pretty villa Grandbois, some distance away. The beautiful gardens of this villa give some idea of what can be done in a horticultural way in so favored a spot as Cannes. There is an absolutely perfect system of drainage here, even to the extent of complete separation of kitchen waste from general house waste. The presence of an ample, well-cemented, and properly ventilated cesspool, quite away from the house, shows clearly enough that, provided only you have ample space, the cesspool system may be made inoffensive and innocuous.

Dr. de Valcourt is the author of the best book on the climate and medical advantages of Cannes. He is also a M.R.C.P. of London. The practitioner is a great believer in the utility of sea-baths continued all through the winter, more especially as a cure for scrofulous diseases. He has published in the *British Medical Journal*, October 27, 1888, some decidedly encouraging results. He is consequently an earnest advocate of the extensive employment of this rather shivery method of treatment. It should be mentioned that Dr. de Valcourt's cases were mostly hospital patients recruited from the ranks of the poor.

The beach of Cannes certainly looks inviting. Instead of the forbidding shingles of Nice, you have there soft and clean-looking sand, a gradual incline, and even at times an angry surf. But indiscriminate winter sea-bathing does not commend itself to the average run of semi-invalids and health loungers. A severe eclecticism must be exercised in that direction, if the actual harm is not to more than counterbalance the possible good.

Cannes has no Board of Health. There is, however, the *état civil*, where a record of deaths is kept. Copies are on file at the Mayor's office. The British Vice-Consul, Mr. John Taylor, by special arrangement, is also given a transcript. For ten years the deaths at Cannes were as follows:

TABLE OF DEATHS AT CANNES.

Year.	Total.	French.	Others.	Remarks.
1881..	681			Large works going on by a big land company employing large numbers of Italian workmen, *e.g.*, 5,000 Piedmontese laborers.
1882..	730			
1883..	789			
1884..	567			
1885..	482			
1886..	481			
1887..	585			
1888..	521	408	121	Influenza years.
1889..	560	420	140	
1890..	636	460	160	
1891..	576			

Based on a census enumeration giving Cannes a 20,000 population, we would have the following percentages of mortality:

	Deaths per 1,000.
1881	34.5
1882	36.5
1883	39.9
1884	28.3
1885	24.1
1886	24.0
1887	29.7
1888	26.0
1889	28.0
1890	31.8
1891	28.8

But it would hardly be fair to estimate the death-rate in that way. For, in drawing conclusions from a study of the above tables, we must remember that the actual population of Cannes is much higher than that given by the census. The latter keeps it arbitrarily below twenty thousand for well known municipal reasons (taxation in France is much higher after the 20,000 limit has been passed). At Cannes numerous Italian laborers are not counted as citizens, although any death occurring among them will be recorded against the general population. The census of 1886 gives Cannes 19,594 inhabitants, that of 1891 estimates them at 19,989.

The floating population, comprising hotel-guests, visitors, servants, and winter-villa residents, is computed by the British Vice-Consul, Mr. Taylor, at from 6,000 to 8,000. This gentleman having resided at Cannes for the past thirty-three years, and having personal facilities not enjoyed by others, is in a position to give reliable information.

Dr. de Valcourt, the United States Consular Agent, places a still higher estimate (up to 10,000), on this fleeting family of human birds of passage. There is also another circumstance to be taken into consideration, namely, that in all these French towns there is an excessively large infant mortality. In spite of its British colony, the infantile mortality at Cannes reaches from twenty-six to thirty-two per cent. of the total number of deaths.

In view of all this the normal death-rate of Cannes is difficult to fix. But it would probably not average below 28 per 1,000. This is neither very good nor very bad. But in any event it is reasonable to anticipate a considerable reduction in mortality on completion of the new system of sanitation.

The imperfections of the present system of drainage at Cannes are about to be remedied in every particular, and need not, therefore, be explained at length. A number of old water-courses, coming from distant mountain streams, run through the town. They are all more or less impure. But they do not "reek with filth," as has been given out in some quarters. The surface water from street-cleaning, rainfall, etc., runs into old-fashioned, large-calibre sewer pipes. These empty through new iron and syphon-trapped conduits into the sea, at a short distance from the shore-line. The traps need daily attention, and are liable to become clogged with sand. They

are apparently quite useless. An iron lattice-work, arranged like a cage, retains the larger solids on the inland side of the traps. They are only an added complication. This particular reform fails to reform.

Kitchen refuse is thrown out into the public streets just as in Nice. But there is this difference in favor of Cannes regarding its final disposition. The Niçois pay to have the garbage carried far out to sea and there dumped. The Cannois sell it to the farmers for fertilizing purposes.

A good many of the older houses at Cannes still have dangerous near-by cesspools. Quite a number of these receptacles are surreptitiously connected by overflows with the street drains. But all cesspools will soon be suppressed in every quarter of the town. On the other hand, a very fair proportion of the house and hotel sewage is already carried into drains of the new pattern. And all of it is now taken to a large collecting pipe that empties far out into the sea to the west of the breakwater. The pipe is 128 mètres from the shore. Its mouth is placed six inches below the surface of the water, and has, like the conduit itself, a diameter of 0.50 mètre.

Many of the private residences, of the villas that are on the rent list, as well as numerous hotels and boarding-houses are now equipped with irreproachable modern sanitary conveniences.

The underlying principle governing the construction of an elaborate network of sewers for all the highways of Cannes is simply the complete separation of surface waters from house drainage. The new conduits are made of specially prepared, impervious, glazed earthenware. They are of small calibre. Before being laid down each pipe is practically tested by a pressure of two atmospheres. There will thus be no immense subterranean sewers such as exist in Paris. The works will necessitate only inexpensive excavations, and the frequent man-holes and flushing-tanks will insure easy inspection and a smooth working of the whole system.

The house pipes are connected by branches of even smaller calibre with the street drains. The latter run into a collecting main which empties everything far out into the Mediterranean. All soil and waste pipes are to be properly trapped and ventilated to the roof. In a word, a complete and simple system, in accordance with the most advanced English ideas, is to be established.

From the office of the Mayor a set of stringent rules and regulations has just been issued. But legislation is still needed to give the authorities power to enforce their rules. At present they can only compel compliance therewith by the indirect method of bulldozing. And it is already apparent that some of the pig-headed natives do not bulldoze well. These regulations of the Mairie de Cannes bear the rather formidable title of "*Arrêté portant règlement provisoire sur l'écoulement direct des vidanges et des eaux usées des maisons aux égouts, ainsi que sur l'assainissement des habitations.*"

Cannes is not a cheap place. There are plenty of good hotels, but not many good boarding-houses. The Prince of Wales Hotel has perfect sanitary arrangements and the cleanest-looking kitchen I have yet seen in France. But I cannot enter into competition with Baedeker, who will give your readers more hotel points than you can shake a stick at, if you ever indulge in that form of matrimonial recreation.

All kinds of debilitated persons, whether old or young, do well at Cannes. But people afflicted with hereditary or acquired debility of the pocket-book will find the place unsuitable for purposes of recuperation. Per contra, plethoric conditions of that kind are quickly relieved. The air is exciting, stimulating, bracing, and tonic. It has sedative qualities only quite away from the sea.

The first, and even the second, stage of phthisis may be improved there. The third stage will surely get rapidly worse. Male and female hysterics are aggravated at Cannes, and are better off at home, where they can aggravate the family martyrs.

Torpid constitutions may be wakened into some semblance of life and enjoyment at Cannes. All strumous conditions are apt to be greatly benefited. The various forms of anæmia, and even cachectic states, and other dyscrasias, may be considerably improved. Asthmatics and bronchitics must be on their guard against the dusty winds, but with suitable precautions should do well. In a word, any invalid not too far gone, and who has enough constitution left to stand being whipped back into the health line by an exciting atmosphere, brilliant sunshine, sea ozone, or forest air, may safely spend his winters at Cannes.

One great advantage of Cannes over other Riviera stations is that you have actual forest scenery within fifty yards of your hotel. To get such a scene at Nice you have to walk or drive full two miles between high walls; at Mentone, to go quite as far, and to climb till you are worn out with fatigue; at San Remo, to go somewhere else in a carriage.

The possible walks and excursions round about Cannes are very beautiful, and so numerous that no attempt will be made here to do justice to them. Grasse is only a short distance from Cannes, but I may take up that place in a subsequent letter.

Nice has so many and such varied amusements that Cannes, by contrast, is often alluded to as the dullest of dull places. "Nothing going on at Cannes," is the pet phrase of those whose jaded constitutions and dulled palates require rather more spice than mere attic salt. But it would be a great mistake to suppose that healthy recreation, convivial meetings, dances, and other social pleasures are not to be had at Cannes. On the contrary, many families of refinement and culture, who would loathe contact with the grosser joys offering at Nice, find Cannes sufficiently attractive to return there winter after winter. Read this:

"Everyone will find in Cannes what he looks for, or puts into it. The visitor may live in a boat, or through a succession of morning visits. He may either go to picnics or lie in a balcony; he may explore the mountains or hire a studio, drive a team of miniature ponies, or ride on a donkey; he may dance cotillons or sing psalms, or look for trap-door spiders; he may live on the shore or among the resinous firs on the hill; he may learn languages and play on divers instruments; he may flirt and quarrel, . . . etc., through the whole gamut of human activities, rendered agreeable by the favoring factors of sunny air and pleasant companionship."

To Mr. James Gordon Bennett belongs the credit of efforts to make coaching popular in this part of the world. Certainly nature and art have here combined to extend a permanent invitation to lovers of tally-ho trips. Excellent roads running through a country beautified by resplendent sunshine that bathes all the landscape in a golden glory, ever-changing views of many-colored promontories jutting out into the green blue expanse of a shimmering sea, the whole canopied over by the pale azure of a Provençal sky, constitute elements that it would indeed be difficult to find elsewhere so happily blended. It is but natural, therefore, that coaching has become quickly popular here, and I doubt not that this pastime has come to stay.

The Réunion Coaches "Comet" and "Meteor" are good specimens of the modern tally-ho. They run from the Place Masséna, at Nice, to Cannes, forming a double service daily, Sundays excepted. Here is the time-table:

THE COMET—*Nice to Cannes.*

Out.	A.M.	*Back.*	P.M.
Nice	10.10	Cannes	2.30
Le Var	10.32	Golfe Jouan	2.55
Cagnes	10.55*	Antibes	3.04*
Val Claret	11.25	Val Claret	3.20
Antibes	11.32*	Cagnes	3.50*
Golfe Jouan	11.50	Le Var	4.13
Cannes	12.15	Nice	4.35

* Change horses.

THE METEOR—*Cannes to Nice.*

Out.	A.M.	*Back.*	P.M.
Cannes	10.00	Nice	3.00
Golfe Jouan	10 25	Le Var	3.22
Antibes	10.43*	Cagnes	3.45*
Val Claret	10.50	Val Claret	4.15
Cagnes	11.20*	Antibes	4.22*
Le Var	11.43	Golfe Jouan	4.40
Nice	12.05	Cannes	5.05

* Change horses.

Fares: Single, $2; return, $3. Box Seat: Single, $4; return, $5.

It is seen, therefore, that the fare is by no means high, and even a slender purse will not suffer depletion from a trip on the Riviera tally-ho. Anything more exhilarating and healthful than this excursion in fine weather it would be difficult to imagine. And it is only natural to find invalids and pleasure-seekers alike taking frequent runs on these comfortable coaches. It is also with pardonable pride that an American can say that America took the lead in popularizing this agreeable mode of locomotion in France.

The Réunion of Cannes, is probably the most exclusive organization of its kind on the Riviera. Captain Perceval, of the Guards, was the founder, as he is the present manager, of this flourishing club. It has been in existence only five years. Though chiefly British as regards its membership, some well-known American names appear among a multitude of foreign titles that abound there, as everywhere at aristocratic Cannes. I was, however, assured by Captain Perceval that no properly introduced American would be refused admission at the Réunion. At the present moment there are Howlands, Von Hoffmans, Harrimans, Ritchies, Winslows, Blights, and other useful or ornamental citizens of the United States at this pleasant place of private entertainment. A well-known writer, thoroughly posted in Continental affairs, says that the grounds are not sufficiently extensive to admit of all the out-door sports of some English clubs. But there are several excellent lawn-tennis courts, which are constantly occupied by the élite of Cannes society, and where some of the greatest masters of the game — the brothers Renshaw, among others—often try conclusions.

There is no club on the Continent where ladies and gentlemen of the highest standing, and of all nations, meet on such an equality, and where they more thoroughly enjoy themselves. The restaurant department is excellently managed, and the charming little breakfasts and dinners that are given during the season rank among the principal attractions of the Riviera.

Balls, concerts, and other amusements are constantly given throughout the season, and even a children's ball was recently organized. The latest innovation is the electric light, and an announcement has been made to the effect that the Société de la Lumière électrique is now in a position to supply hotels and private houses. Doubtless the owners of many villas will avail themselves of the opportunity of substituting this brilliant light for the flickering illuminations formerly in use.

A certain Grand Duke, brother of the Czar of Russia, and who had the added distinction thrust upon him of being fired out of that cold climate on account of not marrying right (*i.e.*, not according to court etiquette), lives next door to the Réunion. This distinguished person has been actively employed in the installation of the new Golf Club, which is now a *fait accompli*. The success which golf has attained at Pau and Biarritz is a sure sign of the popularity of the game. It is certainly one of the most invigorating and healthy sports ever introduced, and is as far ahead of croquet, or any of the "namby-pamby" games which have followed, as racing is above trotting. Forty golfers are already enrolled on the lists of this youthful aspirant for honors among Riviera institutions.

They have also quite recently finished a splendidly-situated and artistically-decorated "Casino des Fleurs." Concerts, theatricals, and other exhibitions will form the main features of amusement at this attractive flowery house.

One cannot take leave of Cannes without praising the rare and exquisite beauty of its gardens. Some of the villas are justly famous for their unequalled floral collections. Take the Villa Valhambrosa, for example. Such flower-beds, such varied shrubs and palms it would indeed be difficult to reproduce elsewhere. Its appearance by lamplight has thus been alluded to: "The palms then throw their multitudinous shadows on the sward, a fountain lifts a tall white column into the moonlight, and as the roses fling themselves from tree to tree, you expect to see, dancing among their ropes of flowers, the elves of some 'Midsummer Night's Dream.'" Good-by, Cannes. Remember:

"Here the spring is longest, summer borrows months beyond her own;
Twice the teeming flocks are fruitful, twice the laden orchards groan;
Hail, thou fair and fruitful mother, thus I dare to wake the tale
Of thine ancient laud and honor. . . ."

(To be continued.)

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE DEBATE AT THE PATHOLOGICAL SOCIETY ON PHAGOCYTOSIS AND IMMUNITY—ADDRESSES BY DR. BRISTOWE, DR. WILLIAM HUNTER, DR. SIDNEY MARTIN, DR. A. E. WRIGHT, DR. J. G. ADAMI, AND MR. T. J. BOKENHAM.

LONDON, March 5, 1892.

THE discussion at the Pathological Society on phagocytosis and immunity was resumed on Tuesday evening last. Dr. Bristowe opened the adjourned debate. He said the resistance of the body to the invasion of infective diseases was provided for in various ways, viz., mechanical, as the opposition of the skin and mucous membranes; inflammation with subsequent encapsulation or suppuration; active warfare, or phagocytosis; unfitness of soil, etc. Should the infective principle succeed in getting past these first barriers, they would enter the system along the vessels (vascular or lymphatic) as far as the first group of glands. He thought that cure occurred by the infective principle getting beaten at the mucous membranes or at the lymphatic glands. These modes of cure, however, would not include the cure of the exanthemata after their generalization, and it was in these cases especially that immunity most frequently arose. Dr. Bristowe then contrasted various types of infective disease. Local skin tubercle, or lupus, he said, seemed to prevent general tuberculosis instead of producing it. In diphtheria and typhoid the chief symptoms were associated with the local lesions rather than with the generalized poison, which, as a rule, produced its effects after the subsidence of the local lesion. With small pox and the other exanthemata the conditions were wholly different. In small-pox, immunity seemed to be acquired in the earlier stages of the disease, as it was remarkable that while the pocks were developing the poison from them was not absorbed by the body. By vaccination the generalized disease was produced which gave immunity, and this was comparable to the invasion period of variola; but he could not say how the immunity was produced. He suggested that it might be possible to avoid the local ill-effects of vaccination by injecting the lymph deeply into the tissues or into the glands. He agreed with Dr. Sanderson's views of phagocytosis.

Dr. William Hunter followed in a speech of some length. He said that before discussing the probability of one or other doctrine, it was well to have the facts clearly before our minds. These were briefly as follows: in non-protected animals virulent bacteria inoculated subcutaneously produced little or no local change, grew un-

hindered, and caused general infection; in protected animals inoculation of the same bacteria was followed by a local leucocytosis at the point of injection, a certain degree of inflammation was set up, and general infection was prevented. In virtue of some change in the body, that which was formerly capable of setting up a general disease could now only set up a local affection. What was the nature of this change? On the one hand, we had the bacteria with their powers of forming poisons, viz., toxins, toxalbumins, and proteids. On the other hand, the means which the organism had of protecting itself were of a twofold character. In the first place, there were the cells, and especially those free lances of the body, the wandering leucocytes, and, in the next place, apart altogether from the action of living cells, the plasma and serum of the blood was now known from experiments to possess antibiotic powers when withdrawn from the body, bacteria being killed after a short exposure to their action; but little was known of the substance or substances in plasma or serum to which this bactericidal action was due, further than that they were proteids. He thought the doctrine of phagocytosis had greater claims than the one which was opposed to it. By revealing to us, as it had done for the first time, the potentiality possessed by cells of themselves combating the attacks of virulent microbes, it had added much to our knowledge of the means by which infectious disease was combated. The theory of the bactericidal action of blood-serum, to which so much importance was attached by the opponents of the phagocyte doctrine, was itself the direct outcome of the attention drawn by Metschnikoff to the action of cells. So far from being antagonistic, the phagocytic and the humoral doctrines mutually supplemented and supported each other; both recognized the existence of antitoxic and antibiotic substances in blood serum and plasma. If a choice had to be made between the two, the one we could least do without was that which attached a preponderating importance to the cells of the body rather than to the fluids, to the action of the cells rather than to the products of that action, to the agents rather than to the instruments. On both views the final nature of the change, whether in cell or in product. was unknown. The change in the cell, though, must necessarily precede that in the product, and the doctrine of phagocytosis directed most attention to the cells; he thought, therefore, that that doctrine had claims on our support greater than any teaching that would, even temporarily, draw our attention away from the cell to the fluid in which it lay, or that would exalt the product at the expense of the producer. In the last place, he claimed for the phagocyte doctrine that in attaching special importance to the action of certain cells—leucocytes of blood, cells of spleen, and lymphocytes generally—it drew attention to facts of wide physiological importance, viz., that it was precisely those cells which governed, in a special degree, the constitution of the plasma and blood-serum. Dr. Hunter discussed in detail the action of the spleen, and said that experiments showed that the well known destructive action on the blood of toluylendiamin was in a special degree dependent upon the presence of the spleen; in the absence of that organ rabbits could tolerate without the slightest effect about twice the dose of the poison that would otherwise suffice to produce recognizable changes in the blood.

Dr. Sidney Martin said the question might be studied in two directions, viz.: (1) as to what rendered an animal naturally immune to disease; and (2) as to how experimental immunity could be produced. The latter was the better method of research. He observed that a bacillus, whether attenuated or virulent, acted by means of its chemical products. In the case, therefore, of Pasteur's anthrax experiments with sheep, it must be said that immunity was produced by means of the chemical products of the attenuated bacilli, and yet the virulent bacillus which produced the same products did not kill the animal. Its natural growth and activity had been inhibited. How could this be explained? Part of the explanation appeared to be that the inoculation of the attenuated virus accustomed the animal to the specific chemical poison of the bacillus. Several instances of acquired tolerance of poisonous doses of drugs were known in pharmacology. Dr. Martin described some experiments which showed that a certain degree of tolerance to virulent anthrax bacilli might be established in animals by means of the chemical products of the micro-organisms. He thought there was something beyond phagocytoses in the question of immunity.

Dr. A. E. Wright gave an account of some researches which he had made in continuation of some by the late Dr. Wooldridge and by Mr. Hankin. In 1888, Dr. Wooldridge had described a method of "chemical protection" against anthrax; this was produced in rabbits by the administration of tissue-fibrinogen. Mr. Hankin had adopted the term "defensive proteids" for the albuminous substances in which protective chemical properties were supposed to be resident, and he grafted the idea of a bactericidal power on to the more generic conception of a defensive proteid. Mr. Hankin had observed that a protective substance ("alexin") could be extracted from the spleen of the white rat. Dr. Wright said he had repeated Wooldridge's experiments with a view of isolating the constituent to which immunity was due. He found that sterilization by means of a Chamberland's filter might with advantage be substituted for the method of heat sterilization. He found, as Wooldridge had done, that anthrax could be got to grow in tissue fibrinogen solutions; the effect of tissue fibrinogen was, therefore, clearly not due to a bactericidal power. Dr. Ruffer had suggested that tissue-fibrinogen might act as a cell-stimulant, and he had himself found that its injection was followed by a remarkable increase in the number of leucocytes. Dr. Wright then alluded to a paper by Horbaczewski on the physiological effects of nuclein. He had himself shown that nuclein was a constituent of tissue fibrinogen, and since Horbaczewski proved that the administration of this nuclein resulted in the production of a leucocytosis, he naturally turned to investigate whether the protective effects of a tissue-fibrinogen solution could be obtained by an administration of its nuclein moiety alone. He anticipated that he should reap the advantage of an exact dosage, and also that of obtaining aseptic solutions with greater facility. He had only just begun to investigate the matter, but had already been able to satisfy himself that a very remarkable prolongation of life resulted from the administration of the nuclein before an anthrax inoculation, and that this prolongation of life was associated with an increased leucocytosis. He thought that Mr. Hankin's alexin was the same thing as Wooldridge's tissue-fibrinogen, or, at any rate, that it could not fail to be contaminated with it. He pointed out that the nuclein with which Horbaczewski conducted his experiments was prepared from the leucocytes of the spleen. With regard to Mr. Hankin's observation, that alexin was found only in the spleen of the relatively immune white rat, this might depend on a greater development of the adenoid tissue of the spleen in the white rat, for it was well known that the spleen played an important part in the conflict of the organism with the micro-organisms of disease. A greater development of adenoid tissue would go hand in hand with a larger percentage of tissue-fibrinogen in the extracts. The newer development of the Metschnikovian doctrine, he said, aimed at reconciling the opposing schools of phagocytists and humoralists, by assuming that the disintegration products of the white corpuscles played a part in the conflict of the organism with infective disease. Each of these chemical disintegration products might possibly act in a protective manner by virtue of either a chemiotactic power, a bactericidal power, or a stimulating power. Dr. Ruffer had shown that tissue-fibrinogen solutions had a positive chemiotactic power. With regard to the bactericidal power of tissue-fibrinogen, he did not think the question had finally been decided in the negative.

It had already been seen that tissue fibrinogen possessed powerful stimulating properties. He thought tissue-fibrinogen and nuclein might be regarded as cell-manures, for by whatever method these substances were introduced into the organism, they were invariably found to produce a leucocytosis.

Dr. J. G. Adami discussed the research of Klemperer and Klemperer upon pneumonia. These observers had shown that immunity (generally only temporary) against pneumonia could be bestowed upon susceptible animals by introducing into the tissues the sterilized products of the pneumococcus. Immediate immunity could, however, be produced by injecting the blood-serum of a "protected" animal into the veins of a susceptible animal. Evidently, therefore, some substance was present in the blood-serum of an animal made immune—a substance not present in the sterilized fluids of the pneumococcus. The bacterial products, therefore, did not of themselves bring about immunity, but through the febrile reaction some other body having immunity-conferring properties was gradually developed. The phenomena of infection and immunity were evidently chemical at base; certain substances were produced by the bacteria on the one hand, by the organism on the other, whose action was of a chemical or a chemico-physical nature. How was this action exerted within the body? Were bactericidal and antitoxic substances normally free in the blood, were they developed within special cells, or were they generally distributed throughout the tissues? In the first place it could not be too strongly insisted on that their presence in blood-serum was no certain indication of their presence in blood-plasma; blood-serum and blood-plasma exhibited marked differences in their characters, and nothing was more marked than this difference in the bactericidal powers of the two fluids. While bactericidal and antitoxic substances might appear or be developed in the cells forming many of the tissues of the body, it had yet to be proved that this could hold good to any extent. We were still without proof that, save in the case of organs formed largely of leucocytes and potential phagocytes, the tissue could have powers comparable to those possessed by the serum and body fluids. We were therefore driven to the conclusion that the difference between serum and plasma depended upon an alteration in the condition of the white corpuscles, and that the leucocytes were a most essential factor in the production of immunity. As to the way in which the leucocytes acted upon the bacteria, he could not help being impressed by the fact that the more perfect the methods employed, the greater was the phagocytosis observable in the course of resolution of disease. He concluded that, even though leucocytes had other methods of acting upon bacteria and their products, phagocytosis was a most important—probably the most important—factor in the production of immunity. We must look to the parent-cells rather than to the free, motile leucocytes, to explain continued powers of resistance to bacterial products on the part of leucocytes, the development of increased resistance, the development of immunity.

Mr. T. J. Bokenham gave an account of some investigations on erysipelas, and remarked that the results of these would have to be explained before the question of the causation of immunity could be settled. The inoculation of a virulent culture of true streptococcus erysipelatis into a rabbit's ear produced a typical spreading erysipelas without pus formation, though the lymph, while the process was advancing, was very rich in leucocytes. If some of this lymph were injected into a guinea-pig and into another rabbit, the latter would contract a disease in every respect similar to that in the first rabbit, but nothing would happen to the guinea-pig. The virulence of streptococcus erysipelatis, also, varied under different conditions. If a culture too attenuated to produce the disease in a normal rabbit were injected into one in which a simultaneous intra-peritoneal injection of a sterilized culture of bacillus prodigiosus had been made, typical erysipelas would appear at the point of inoculation. In this case, a rabbit which was immune to an erysipelas of a low virulence was made susceptible, and inoculation from it to a normal one would produce the typical disease in the second; by continuing the process through successive rabbits, a very virulent form of erysipelas could be produced in which a highly infective disease occurred with generalized symptoms, though no reaction occurred at the point of inoculation. Here, undoubtedly, the local cellular infiltration seemed to have played some part in the localization of the disease. If a rabbit vaccinated against the bacillus pyocyaneus were inoculated with streptococcus erysipelatis, a general fatal infection occurred without local reaction at the seat of inoculation, but blood from this rabbit could only produce the local disease in a normal rabbit. Association of attenuated erysipelas with a common mould increased the virulence of the streptococcus, both generally and locally.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 26, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	4
Scarlet fever	214	31
Cerebro-spinal meningitis	5	9
Measles	368	15
Diphtheria	116	30
Small-pox	4	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

A Philosophical Testator.—The following is sent to us by an old friend, and possesses some psychological phases which are amusing and suggestive:

"Will of Alexander Campbell of Richmond, Va.

"In the name of God, Amen.

"I, Alexander Campbell, being in my perfect senses, do make this, my last will and testament.

"As to my worldly estate, I give it to my wife, to dispose of as she thinks fit, recommending to her affection and care, in all situations, my dear children.

"For my soul, it is not mine to dispose of, if I have any; and if I have none, I have none to dispose of, and so, either way, the disposition seems to be needless.

"Neither is it necessary to bequeath my body to the earth from whence it came, since it is very certain to go thither, whether I bequeath it or not.

"I hope that no tombstone will be erected over me, because it will merely hinder something from growing on the spot, and, as lands now sell, it is a pity to lose so much of the earth's surface, which may be used for the sustenance of the living. If all men had tombstones erected over their graves, the earth would, in a few centuries, become one entire pavement.

"I hope for nothing, because I fear nothing. I am very certain that I am a material being, the nice combination of whose parts produces the effects of walking, speaking, volition, and other acts common to animated beings.

"Since this material being is destroyed, I have no doubt that it perishes, as far as matter can perish; that is, the form, texture, and peculiar arrangement of the body are destroyed, but the parts, principals, or seeds, which compose it, do not perish; they assume new forms by new combinations and the addition of new matter. Thus the

world eternally progresses. Nothing comes into existence but from something, which has previously perished or died.

"These few opinions I give to those, who shall read my will, that they may consider upon them, and determine whether the priests of all countries have not made a job of immortality and its long train of absurdity.

"I bid a very affectionate farewell to the world, not knowing what sort of being it will be which may spring from me.

"Written with my own hand, November 27, 1795.

"ALEXANDER CAMPBELL."

Contagiousness of Influenza.—Dr. Richard Sisley has recently published a little work on "Influenza," in London, in which he argues strongly for its contagious nature. He contends the beginning of a wide-spread epidemic is always announced by the occurrence of a few isolated cases, that the disease follows the lines of trade and travel, and that prisoners, asylum inmates, and other isolated communities usually escape from the disease, even when it is raging all about them outside of their enclosures. Dr. Sisley's views appear to have found ready acceptance, for only a few days ago a magistrate in Dover fined a number of sufferers from influenza £5 apiece for appearing in public before they had recovered from the disease. It's pretty tough to have the grip and then be fined $25 besides, just on theoretical grounds.

Higher Education for Women.—The Smith College girls are now on a tour giving whistling and vocal concerts for the benefit of their gymnasium.

The Treatment of Ozæna.—Dr. Meijer regards the treatment of ozæna by means of nitrate of silver spray as superior to all other means. He first packs the anterior nares with dry cotton for twenty to thirty minutes, to remove crusts and mucus. The tube of a spray apparatus (pulvérisateur) is introduced well into the cleansed nostril, and ten or twelve drops of a two per cent. solution of silver are sprayed in, care being taken not to moisten the skin or anterior mucous membrane, which is apt to bring on headache, flow of tears, and other disagreeable symptoms. The strength of solution is increased daily, until at the end of four days a fifteen per cent. solution is employed, at the end of eight days a twenty-five per cent. solution which is continued with for a week. Now the application is to be made only every second day, and treatment continued until crusts cease to be formed, which will be a matter of a few weeks only, in cases which under old plans of treatment lasted two or three years.—*L'Union Médicale du Canada.*

BOOKS RECEIVED.

HUMAN MONSTROSITIES. By Barton Cooke Hirst, M.D., and George A. Piersal, M.D. Part II., folio; 33 pages text, thirteen plates. Lea Brothers & Co., Philadelphia, Pa.

SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., assisted by Walter Chrystie, M.D. Part II., 8vo, 1158 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

DISEASES OF THE HIP-JOINT. By Robert W. Lovett, M.D. 8vo, 220 pages, illustrated. Damrell & Upham, Boston, Mass.

ON THE SIMULATION OF HYSTERIA BY ORGANIC DISEASE OF THE NERVOUS SYSTEM. By Thomas Buzzard, M.D. 12mo, 113 pages. J. & A. Churchill, London.

MINER'S NEW COMPLETE OBSTETRIC RECORD. By Joel A. Miner. Folio, 124 pages. Joel A. Miner, Ann Arbor, Mich.

PRESCRIBING AND TREATMENT IN THE DISEASES OF INFANTS AND CHILDREN. By Philip E. Muskett. 16mo, 293 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

THE BOOK OF PRESCRIPTIONS. By Henry Beasley. Seventh Edition. 12mo, 599 pages. P. Blakistor, Son & Co., Philadelphia, Pa.

PRACTICAL AND ANALYTICAL CHEMISTRY. By Henry Trimble, Ph.M. Fourth Edition. 8vo, 119 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

EPIDEMIC INFLUENZA, NOTES ON ITS ORIGIN AND METHOD OF SPREAD. By Richard Sisley, M.D. 8vo, 150 pages. Longmans, Green & Co., New York.

COCA AND COCAINE. By William Martindale. Second Edition. 12mo, 76 pages, illustrated. H. K. Lewis, London.

THE MEDITERRANEAN SHORES OF AMERICA: OR, THE CLIMATIC, PHYSICAL, AND METEOROLOGICAL CONDITIONS OF SOUTHERN CALIFORNIA. By P. C. Remondino, M.D. 8vo, 176 pages, illustrated. Price, cloth, $1.25; paper, 75 cents. The F. A. Davis Co., Philadelphia, Pa.

THE PATHOLOGY AND PREVENTION OF INFLUENZA. By Julius Althaus, M.D. 8vo, 64 pages. G. P. Putnam's Sons, New York.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. IV., 1891. 8vo, 320 pages, illustrated.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. IX. Edited by J. Ewing Mears, M.D. 8vo, 508 pages, illustrated.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By William Osler, M.D. 8vo, 1079 pages, illustrated. D. Appleton & Co., New York.

DISEASES OF THE THROAT, NOSE, AND EAR. By P. McBride, M.D. 8vo, 640 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By W. R. Gowers, M.D. Second edition, revised and enlarged. Vol. I., Diseases of the Nerves and Spinal Cord. 8vo, 616 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN. By George H. Rohe, M.D., assisted by J. Williams Lord, A.B., M.D. 12mo, 303 pages. Price, $1.25. The F. A. Davis Co., Philadelphia, Pa.

BACTERIOLOGICAL DIAGNOSIS. By James Eisenberg, M.D. Translated by Norval H. Pierce, M.D. 8vo, 184 pages. The F. A. Davis Co., Philadelphia, Pa.

A TEXT-BOOK OF NURSING. Compiled by Clara S. Weeks-Shaw. Second edition. 12mo, illustrated, 391 pages. D. Appleton & Co., New York.

THE YEAR BOOK OF TREATMENT FOR 1892. 12mo, 486 pages. Lea Brothers & Co., Philadelphia, Pa.

DISEASES OF THE URINARY APPARATUS. By John W. S. Gouley, M.D. 12mo, 342 pages. D. Appleton & Co., New York.

A PRIMER OF MATERIA MEDICA FOR PRACTITIONERS OF HOMŒOPATHY. By Dr. Timothy Field Allen. 8vo, 408 pages. Boericke & Tafel, Philadelphia, Pa.

THE POCKET PHARMACY WITH THERAPEUTIC INDEX. By John Auld, M.D. 12mo, 204 pages. D. Appleton & Co., New York.

THE HUMAN FIGURE: ITS BEAUTIES AND DEFECTS. By Ernst Brücke. 8vo, illustrated, 188 pages. B. Westermann & Co., New York.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE By Alexander Haig, M.D. 8vo, 272 pages. J. & A. Churchill, London, England.

THE MÜTTER LECTURES ON SURGICAL PATHOLOGY. By Roswell Park, M.D. 8vo, 301 pages. J. H. Chambers & Co., St. Louis, Mo.

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Original Articles.

A NEW METHOD OF ARTIFICIAL RESPIRATION IN ASPHYXIA OF THE NEW-BORN, WITH CASES.

BY W. E. FOREST, M.D.,

NEW YORK.

THE importance of employing the very best method of artificial respiration in a case of profound asphyxia in the new-born can hardly be over-estimated. All the possibilities of a human life may, in such a condition, rest in the hands of the attending physician, and his skill and perseverance, or the lack of it, will determine the fate of the new life. An incident given by Professor R. A. F. Penrose, of Philadelphia, illustrates so graphically this point that it may with propriety be introduced here.

"Thirty-five years ago," he writes, "the wife of a young physician was confined with her first child, under the care of a celebrated professor of obstetrics. The labor was complicated and tedious; the patient during labor and after was in great peril, demanding the entire attention of her medical attendant. The child when born was apparently dead. The old professor said to the young doctor-father (the mother was unconscious): 'Doctor, cut the cord and take the child away; it is dead, and your wife's condition claims my whole care.' The father separated the child, carried it into the next room, and placed it upon a bed. He then went back and again asked the professor if he was sure the child was dead, receiving again a positive opinion that the child was dead, and that all attempts to revive it would be useless.

"The father returned to his dead baby, and having nothing to do, in a wild, hysterical, utterly helpless sort of way, began artificial respiration (mouth to mouth). Half an hour passed, with no results; the agonized father continued his efforts; an hour passed, but the infant seemed as hopelessly dead as it was before artificial respiration was commenced. The man's emotional paroxysm began to subside, and he began to realize that he was literally wasting his breath; still he did not desist. Suddenly he was startled at a slight, apparently spontaneous movement on the part of the child; with renewed energy he continued his labors, and in a short time normal respiration took place, and to his extreme felicity, and the astonishment of the medical attendant, the child was saved. This happened thirty-five years ago; the great professor is dead; the doctor-father (my friend and patient) is dead; but the child, called back to life by the hysterical blowings of an agonized father, hopelessly practised for the very long period of perhaps an hour and a half, now a grave, mature man, still lives, the comfort and solace of the mother who that day so nearly died in giving him birth."

This incident contains the elements of both a sermon and a romance, and illustrates graphically the importance of skill and perseverance in treating such cases.

Cases of asphyxia neonatorum requiring treatment naturally divide themselves into two classes: 1, Those that can be restored by simple measures that excite reflex action; 2, those that absolutely require ventilation of the lungs through artificial respiration.

The first class of cases are by far the most numerous, and the methods of treatment barely need mention. Slapping the child, dipping it alternately into cold and hot water, brandy or ice put into the rectum, blowing in the face, tickling the fauces with a feather—any or all of these means may succeed in nine out of ten of the cases of asphyxia of the new-born. But in the tenth case all such measures are wholly futile when used alone, and proper artificial respiration can alone succeed. These latter are the only cases that require scientific treatment. In these profound cases of asphyxia it is absolutely necessary that air shall, by mechanical means, be forced into the lungs and forced out again for a variable length of time, so that the blood will receive enough oxygen to keep up the functions of life.

There have been no less than nine methods of artificial respiration advocated as useful in these cases; namely, Hall's, Howard's, Sylvester's, Pacini's, Bain's, Schuckling's, Schuller's, Schroeder's, and Schultz's; to which number this paper will add another distinct method. Of the nine above mentioned, only three can be shown by careful trial and experiment to be of any practical service in asphyxia of the new-born. It may be well first to clear the field of the useless methods that have been heretofore accepted more or less widely, before going further.

Some of these methods, like Howard's, for instance, depend upon the resiliency and elasticity of the lungs for their efficiency. Such methods of respiration are of use in cases of asphyxia from drowning or hanging, and it has been supposed that they are equally as effective in asphyxia neonatorum. But it must be borne in mind that in the asphyxiated new born the lungs are in a state of complete collapse; that there is no resiliency, and can be none until it has been slowly produced by forcing air into the lungs; and that therefore such methods as Howard's are useless.

Champney's careful experiments on the cadavers of dead-born infants proved that such methods could not overcome pulmonary collapse. Another method that has been widely advocated and practised, and yet is utterly useless, is Schroeder's. At a recent meeting of the New York Academy of Medicine a physician present claimed that this method was most efficient, and put it forward as original with himself. In both claims it will be seen he was mistaken.

In Schroeder's well-known method the child is held on the palms of the operator's hands, one hand supporting the child's buttocks and legs, the other its back and head. In this position the child is alternately doubled forward and then straightened. Inspiration is supposed to be induced, in this method, by bending the child's body a little backward into the position of slight opisthotonus, so that the diaphragm may fall, the ribs be raised, and air thus be drawn into the lungs. A moment's reflection will show that this movement produces exactly the opposite effect from what is intended. In the position of slight opisthotonus the recti abdominalis muscles, extending from pubes to ribs, are put upon a stretch and the ribs are drawn down and backward, thus lessening the thoracic diameters instead of increasing them. At the same time the shoulders are dragged down by the hanging arms, instead of being raised as in the Sylvester method. Air, instead of being drawn into the lungs, would thus be driven out if it were there. The movement for forcing out the air by folding the child forward upon itself, so as to force up the diaphragm and force in the ribs, is theoretically right, but as there is yet no air in the lungs, the movement is needless. In other words, Schroeder's meth-

od consists of two movements for expelling air from the lungs and none for forcing it in. Champney's experiments proved conclusively that the method is useless, that the theory is fallacious, and whatever good results may have seemed to come from its employment must have been due to reflex influences, in cases of slight asphyxiation.

Champney found by experiment that there were only three methods of artificial respiration that could introduce an appreciable amount of air into the collapsed lungs of a new-born infant, namely, Sylvester's well known method, Schultz's "swinging method," and that by introducing a catheter into the trachea and blowing in air directly from the mouth or the bellows.

It will be well to briefly review these methods, their advantages and disadvantages, in order to compare them with what will be described later as a new method, in order to determine if the latter has any advantages over the former.

The Schultz, or "swinging method," is the latest and most fashionable method (for there are fashions in medicine as in everything else). In this method the child is held with the fore-fingers of the operator's hands hooked into the infant's axillæ on each side; the remaining fingers clasped across the child's back, so as to offer a support; the head steadied between the operator's wrists. The operator bends forward and the child is held in the vertical position, with the feet near the floor, and the whole weight of its body on the fingers beneath the axillæ. This is the first or inspiratory movement. In this position the lifting force is beneath the outer ends of the clavicles and they, together with the humeri, are raised. The muscles extending from the shoulders to the ribs are made tense, and the ribs are lifted, thus increasing the antero-posterior and lateral diameters of the thorax. At the same time the weight of the liver and abdominal organs draws down the diaphragm; thus the vertical diameter is increased and air is drawn in to fill the lungs.

In the second movement, that to expel the air from the lungs, the operator swings the child forward until his arms are horizontally in front. The motion causes the child to double up anteriorly, so that the legs and buttocks fall over upon the front of the child's thorax. The weight of the abdominal organs now press the diaphragm up; the tension being taken off the clavicles the ribs sink in, and thus the air is forced out of the lungs. At the same time any fluids that may have been drawn into the mouth and trachea will run out. It would be well to put the child in the position for expiration first, not to expel air, which has not yet entered the lungs, but to expel fluids and prevent their being drawn into the lungs by the inspiratory position.

Schultz recommends that after ten or a dozen of these movements the child should be dipped into hot water in order to restore heat; then the movements may be resumed. This method is very showy and effective in some cases, but is open to many grave objections. In the first place, it causes a great loss of animal heat from the moribund infant. When one dips the hand into warm water and then waves it through the air of a moderately warm room he becomes aware that the loss of heat by the evaporation from the surface of the hand is very much more rapid than when the hand is held quiet.

Arctic explorers find no difficulty in withstanding a temperature of seventy or eighty degrees below zero if there is no wind. But at a temperature thirty degrees higher, if the wind is blowing, even moderately, the loss of vital heat is so great that they become quickly benumbed.

The reason for this is evident: when the wet hand is moved or the wind blows on the body, the layer of warmed air next the skin is constantly displaced, and more animal heat is abstracted by the fresh air coming against the surface.

Now, when the naked body of an asphyxiated infant is taken out of warm water and waved through the air every requisite for the rapid abstraction of animal heat is provided. As the circulation of the blood is almost at a standstill, and vital processes are at the lowest possible point, there is no provision for supplying animal heat when once lost. If these manœuvres were to be kept up for only a few minutes, no great harm might be done, as far as the loss of heat is concerned, but in a bad case efforts must be continued for one or two hours, and during that time the loss of heat must be very great and amply sufficient to quench the feeble flame of life.

This loss of vital heat is not an unimportant matter. It is well known that in order to keep life in premature infants a continued high degree of external heat is necessary. A single cooling of the surface may be fatal in such cases. Cooling the surface is just as dangerous in asphyxia neonatorum.

Again, the Schultz method should not be employed, because it is too rough a method: It causes a shock to the nervous system that may be fatal in a bad case. In this method, at the end of the expiratory movement, the abdominal organs are thrown with a sudden push against the diaphragm; this may make sudden pressure against the heart or upon the cœliac plexus of nerves, and, from shock, stop the fluttering heart. Whatever the explanation, the fact remains that these movements in cases of very feeble children will stop the action of the heart. Evidence from cases mentioned in this paper will be given later on this point.

Professor William T. Lusk in his work on obstetrics commends the Schultz method, but says if the child is very weak the method may by its violence entirely stop the heart's action.

Now, we claim that if the Schultz method is not suited to the worst cases it should not be used at all. If the case is such that it can be restored by reflex irritation, then the Schultz method is not needed; and if it is a very grave case, so that artificial respiration is imperative, then only the best and safest method should be used.

Champney, in his experiments on the cadavers of the dead-born infants, found that the inspiratory movement in the Schultz method was very violent. He noticed in many cases that at the end of the inspiratory movement a hissing sound was heard. This was caused by the air being forcibly and suddenly drawn into the anterior mediastinum along the outside of the tracheotomy tube. This must have been due to the violence of the inspiratory movement. This result was not observed when the Sylvester method was employed, although this method was just as effective in drawing the air into the lungs.

Again it is claimed that the Schultz method is the only one that causes descent of the diaphragm, and thus brings this factor into play in drawing the air into the lungs. This claim is true, but experiments show that descent of the diaphragm is of very little consequence in introducing air into the lungs in a case of a dead-born child. Champney's experiments were conclusive on this point.

From the above it will be seen that the Schultz method is faulty, because it causes rapid loss of animal heat from the child, and is so violent as to cause fatal shock in bad cases. It has no advantage over the Sylvester method, as in both cases inspiration must be brought about by dragging up the ribs and sternum through the muscles running from the shoulder to the ribs; and expiration results from the lowering of the ribs and sternum, thus lessening the diameters of the thorax.

The Sylvester method is so well understood that it simply needs mention. The child lies on its back with the shoulders raised slightly and supported by a firm compress; the head inclines backward. The operator raises the child's arms above its head and draws on them until the ribs are raised and air enters the lungs. Then the arms are carried down against the thorax and pressure made to expel the air. This method is far more safe and equally as effective as the Schultz "swinging method." Champney determined that about the same

quantity of air was drawn into the lungs and expelled by each of the two methods, and that the Sylvester did not tend to cause lesions in the anterior mediastinum, such as were found after the use of the Schultz method.

In the Sylvester method a much greater amount of air is drawn into the lungs when the arms are everted than when they are inverted; this is due to the greater tension put on the pectoral muscles when the arms are rotated outward.

Another effective method for ventilating the lungs in the new-born asphyxiated is by the use of the catheter carried down into the trachea, through which air is blown directly into the lungs from the mouth or the bellows. This method is highly commended by Lusk, Polk, and many others. It is certainly effective, as anyone can demonstrate for himself on the cadaver. On introducing the catheter and gently blowing air through it the diaphragm will descend very considerably, and the ribs will rise. A dissection will disclose the fact that the collapsed air-cells have been distended by this process.

While this method is effective it does not seem to be the best or the safest method. In the first place, it is not easy to introduce the catheter through the mouth into the larynx of an asphyxiated child, even though it may be claimed to be a very simple matter.

Again, there is more or less danger of injury to the vocal cords in pushing a catheter between them. Consider how small and delicate these cords are in an infant and the consequences of a rupture of these organs. It would seem that no one but a laryngologist should be entrusted with so delicate an operation; certainly an accoucheur, exhausted by attending a difficult labor, is not the best person to carry out this manœuvre. Again, if the catheter fits the larynx at all snugly no air can escape beside it, and thus the operator may easily put too much pressure on the delicate air-cells of the lungs. In all cases of blowing into the lungs there should be an escape provided in order to prevent undue pressure. Again, as the catheter is usually employed no efforts are made to increase the diameters of the thorax by raising the ribs and sternum. This work has to be done by pressure of the air from within, as the air cells cannot be distended except as room is made for their distention through increased thoracic capacity. In other words, all the force is *vis a tergo*, and none of it *vis a fronte*. It would be safer to combine these two forces in one method.

Again, the introduction of the catheter is entirely unnecessary, as air can be blown into the lungs without its aid (as will be shown later), and therefore an act of this kind is unjustifiable.

Having thus briefly touched upon the useful methods of artificial respiration in the new-born we come to what we may venture to call a new method. In speaking of it as a new or novel method it is implied, simply, that this method has not been described heretofore, so far as can be ascertained.

The method is as follows: When it is evident that the asphyxia is so profound that reflex irritation will not remove it, and that artificial respiration is necessary, the child is first laid for a moment on its face, head a little lower than the pelvis, and pressure is made upon its back to expel any fluids that may have been drawn into the mouth and trachea. Then the child is placed in a sitting position in a common wooden pail, half full of hot water, so that the water comes up to or just above the child's heart. The operator's left hand grasps the child's wrists or hands, the child's palms being to the front, so that when its arms are raised they will be rotated outward (see preceding page for reason). The operator's right hand supports the child's back across the shoulders, with the child's head fallen back and resting in the crotch between the thumb and finger of this hand.

The infant being in position, the first movement is that for getting air into the lungs. The child's arms are carried steadily upward and a little backward by the operator's left hand, until the weight of the body comes upon the shoulders, the back steadied by the operator's right hand, the head supported between the thumb and forefinger. In this position the child's arms are drawn up and rotated outward, and the muscles extending from shoulders to ribs made tense. Thus the ribs are raised. As the child is in the sitting posture the abdominal muscles are relaxed, and thus do not tend to prevent the raising of the ribs, as is done in the Sylvester and Schultz methods. In the latter methods one force tends to counteract the other. This is avoided in the method here given.

Having enlarged the thoracic diameters to the fullest extent by raising the ribs, or rather, made it possible for them to be enlarged, we next proceed to force air directly into the lungs. When the ribs are raised the child's head extends sharply backward. This throws the cervical vertebræ forward and draws the larynx backward. Thus the flaccid œsophagus becomes compressed between the bones of the vertebræ on one side and the firm cartilaginous larynx on the other; as a consequence, the œsophagus is effectually closed and the air cannot be forced into the stomach, and must enter the lungs. This effectually disposes of the time-worn and false statement that mouth-to-mouth insufflation must force the air into the stomach instead of the lungs. This position of the head also draws the tongue and epiglottis forward far better than it can be done with the forceps, and there is no possible chance for the tongue to fall back and close the larynx. We now have an open passage-way through the mouth and larynx to the lungs, and there is no necessity of inserting the catheter.

The next step is to force air into the lungs. The arms still held up, the operator bends forward, and taking in a breath as he does so places his mouth over that of the child and blows the air directly into the lungs.

The air must and does enter the lungs and distend the collapsed air-cells, as can be determined by the fact that it can be heard leaving the lungs at the next step in this method. No great force need be used in doing this, although there is but little danger of injuring the air-cells, however great the force. It will be noticed that a safety escape is provided in this method for excess of air. The nose should be, and is, pervious, and any excess pours out through that aperture, thus relieving the pressure on the lungs. This completes the movement for introducing air into the lungs.

Expiration is brought about by doubling the child's body forward upon itself so as to crowd the abdominal organs against the diaphragm; at the same time the arms are lowered to the side, and the operator's left hand, still retaining the hands of the child, is brought against the front of the child's thorax, and then gently and steadily presses the ribs and sternum downward and backward. Thus every requisite is provided for forcing the air out of the lungs: the diaphragm is pushed up, the abdominal muscles are relaxed, the shoulders are lowered, and the thorax is compressed between the operator's hands, one on the child's back the other across the front of the thorax. After a dozen or fifteen complete movements, when a sufficient number of the collapsed air-cells have been distended one can hear the air rush out of the lungs when the pressure is made upon the thorax by the operator's hands. This completes the movement for expiration. Again the hands are carried upward and backward, the child's body is just raised off the bottom of the pail so that the weight of the body is on the arms alone, the head falls back, air is again blown into the lungs.

Now as to the philosophy of the method. It will be noticed that during the whole of the process much of the child's body is in the warm bath. This I conceive to be of great importance, and it is something that has not been applied, so far as known, in any other method.

The important thing in attempts at resuscitation in a bad case of asphyxia in the new born is to keep the child's heart acting. It is easy enough to supply air artificially to the lungs for the oxygenation of the blood, but unless

the heart sends the blood to the lungs, and then on through the tissues of the body, the oxygen put into the lungs is useless. Now, if the child's skin is allowed to get cold the blood in the capillaries ceases to move, and the effect is soon manifested on the feebly-beating heart. If the blood leaves the capillaries cooled it enters the veins at a low temperature and thus chills the heart itself. Again, the heart lies near the surface of the body, and in a half-hour may be directly chilled through the loss of heat from the surface of the body.

On the other hand, if the body is kept in a bath with a temperature of from 105° to 110° F., the capillaries are dilated, the blood can circulate freely, and heated blood may be carried to the heart. It is claimed by physiologists that when the circulation is active the whole mass of blood in the body passes through the capillaries of the skin in a few minutes. Now, if the body is in a warm bath the whole mass of blood has its temperature raised, and thus the muscles themselves soon become heated. Any one can demonstrate the fact on themselves by getting into a hot bath up to the neck. The thermometer in the mouth will soon show a rise of two to three degrees Fahrenheit. M. Morey's experiments proved conclusively that muscular tissue loses its contractility when its temperature is lowered, and regains it when the temperature of the muscles is raised up to a certain point. It has been ascertained that the maximum aptitude for contraction is exhibited by human muscles at about 40° C. = 104° F. This is about the temperature of the body of a healthy adult when immersed for some time in a bath at the temperature of 110° F.

The heart is a muscular organ, obeying all the laws of muscular action, and it seems evident that in an asphyxiated infant it will act with more force if the infant's body temperature is raised and kept at 102° to 103° F., than if it is lowered to 96° or 94° F., as it will be if the skin is exposed to the air for a short time.

Theory and practice both prove that the continued warm bath is a most important measure in the resuscitation of badly asphyxiated infants. The importance of having the child in a sitting posture during the respiratory movements has already been commented on.

In comparing the method here given with the best three methods heretofore used, namely, Sylvester's, Schultz's, and the catheter in the larynx, it will be seen that this combines all the advantages of the three usual methods without any of their drawbacks. For instance, in the new method, we have direct insufflation of air from the operator's lungs, as when the catheter is employed. We have exactly the same method of raising the ribs and sternum as in the Sylvester method, with the additional advantage of having the abdominal muscles relaxed. We have in the new method the descent of the diaphragm that is claimed as an advantage in the Schultz method. We have in expiration the same doubling of the child's body forward and pushing up of the diaphragm as are found in the Schultz and Schroeder methods. We avoid shock and exposure that are so often fatal in the Schultz method, and, at the same time, keep up the vital or animal heat in the infant during, perhaps, a long operation.

In recapitulation it may be said that the steps in the new method of artificial respiration in bad cases of asphyxia in the new-born are as follows:

1. Lay the child on its face for an instant with the head and thorax lower than the pelvis, and make quick but not violent pressure on the child's back. This is done to expel any fluids that may have been drawn into the child's mouth while passing through the pelvic canal.

2. Place the child in the sitting posture in a pail or tub containing six to eight inches of water as hot as can be borne comfortably by the operator's hand. The child is supported in this position by one of the operator's hands across the child's back, the child's head bent back and resting in the crotch between the thumb and forefinger of this hand. The child's hands with the palms to the front are held in the other hand of the operator.

3. The child's hands are carried upward until the child is suspended by the arms, the buttocks just raised from the bottom of the pail. The child's head now falls back, and the operator leans forward, and, mouth to mouth, blows into the child's lungs.

4. The child's arms are then lowered until the hand of the operator holding them rests across the front of the child's thorax. Then the body of the child is doubled forward, and, at the same time, its thorax is compressed between the operator's hands, one in front the other behind. This expels the air from the lungs and completes the movements.

CASE I.—In March, 1890, I was called by an Italian midwife to assist her in the delivery of a child. The mother I found to be a stout, healthy primipara, aged twenty-one. The waters had come away forty-eight hours before I was summoned and there had been labor pains ever since, but no progress had been made. On examination I found the os only one-fourth dilated, the lips thick and firm, the pelvic roof but little retracted, and the vaginal canal wholly unfitted for the passage of a fœtal head.

I decided to wait a few hours; the patient meantime to receive hot rectal douches. Six hours later I was called again. Little if any change, except that the soft parts were more relaxed. The position of the head was face anterior.

Taking into consideration the conditions of the case, *i.e.*, the position of the head, the early discharge of the waters, the leathery condition of the soft parts, the large size of the child's head, and the fact that the mother was a fat, plethoric young woman, I felt sure that I had a tiresome task before me. Needless to say that I was not disappointed. The forceps were applied, and it took three hours of almost continuous traction of the strongest kind to deliver the child. The child's head did not rotate, and in spite of every care during delivery, the mother was badly lacerated, down to, but not into, the rectum. The child was apparently dead, no pulsation of the cord, and not the slightest pulsation of the heart could be felt by the hand. The midwife attended to the delivery of the placenta, while I gave all my attention to the attempt to resuscitate the child. There was no pulsation of the heart that could be felt by placing my hand over the child's præcordial region; but on putting my ear to this region I could very distinctly hear the heart beating at the rate of about sixty beats per minute.

Let me say here that in my opinion the practitioner should never trust to his hand to determine whether or not the new-born child's heart beats. It is really startling to put one's ear to a child's chest where the hand can feel no pulsation, and then hear with such distinctness the dull thud, thud, of the child's heart. Dependence should always be placed upon the ear instead of the hand in determining whether or not an infant's heart has ceased to beat.

In attempting to resuscitate this child I employed for a minute or two the usual slapping with the hand, rubbing with brandy, dipping into hot and then into cold water, but all to no purpose. The case was beyond the effect of reflex irritation.

The method of artificial respiration mentioned above was then employed. That it caused air to enter and leave the lungs could be determined by the blue color leaving the child's lips. Still there was not a single voluntary or spasmodic effort at inspiration.

I have said that at the beginning of my efforts the heart was beating at the rate of sixty beats per minute. This gave me a little confidence that I might revive the child.

At the end of fifteen minutes I removed the child from the bath, put my ear to its chest and counted the heart beats by my watch. The pulsations were one hundred and twenty per minute, I slapped the child quite vigor-

ously, and it drew up its legs with a slow, convulsive movement. But it made no gasping efforts to draw in the air, a movement that usually cheers the physician in these cases. Meantime the water in the pail had been renewed by fresh hot water, I set the child in it, and with my hand laved the water upon the child's breast and neck. Under the influence of these hot douches the capillaries could be seen to fill with blood, as shown by the skin turning red, thus showing that the heart was doing its part. Still no respiratory efforts. I commenced artificial respiration again and continued for ten minutes more. At the end of that time, the midwife stated that she could not deliver the afterbirth, and that the woman was flooding. I was compelled to leave the child for a short interval. Laid it on the table and told the midwife to rub it while I attended to the mother.

I was detained five minutes and then returned to my little charge. I found on putting my ear to its chest that the heart was beating only thirty times per minute. I had little hopes of resuscitating it, but wished to see what the effect of artificial respiration might be, and so replaced the child in the hot water and renewed my efforts. At the end of three minutes I removed the child, and found the heart beating at the rate of ninety per minute. At the end of ten minutes more the heart was beating one hundred and ten times per minute.

It was now a little more than three quarters of an hour since the child was born, and in spite of the fact that the heart was beating quite normally, and that there had been two reflex drawings up of the legs, there had not been the faintest effort at an attempt toward spontaneous respiration. It seemed to me that the nerve-centres governing the respiratory function or the nerve connection between these centres and the lungs had been injured, and the lungs could not voluntarily act. Artificial respiration, as I practised it, seemed to answer to supply the blood with air, and thus favor the heart's natural action. I resumed my efforts and continued them for fifteen minutes, making an hour since the child's birth. Heart beating over a hundred per minute, and skin and lips a good color. I suspended operations for three minutes; heart ran down to thirty beats per minute. Resumed my efforts, and heart was soon beating at ninety per minute. I had given up any hopes of establishing natural respiration, but was simply carrying on an experiment. An hour and fifteen minutes after the birth of the child, I suspended work for five minutes owing to my own fatigue. On resuming, the heart was beating very slow, less than twenty per minute, the child, however, made another spasmodic movement of its legs.

My efforts soon ran the heart-beats up to sixty per minute, and there it remained as long as I continued artificial respiration. I had become very much fatigued by this time, and occasionally laid the child aside so as to rest myself. Every time I resumed artificial respiration, I could increase the rate of heart-pulsation.

An hour and three quarters after the birth of the child the heart was beating very slowly, not more than eight or ten beats per minute. My efforts ran the rate up to forty beats per minute. I then definitely abandoned the experiment, owing to my own fatigue, not because my subject was exhausted. The child never made a respiratory effort during all this time. It seemed that the action of the heart might have been continued for many hours in this case had artificial respiration been continued steadily. I noticed that the more rapid the artificial respiratory movements were made the more quickly the pulse rose.

Respiratory movements in a new-born child should be made forty or fifty times a minute instead of twenty times, as usually taught. An infant breathes naturally about forty times a minute, and this rate should be the rule in artificial respiratory movements.

There are certain conclusions that may be drawn from this case:

1. The method of artificial respiration advocated in this paper ventilates the lungs. This was shown by the fact that for an hour and three-quarters the blood received a fair supply of oxygen, as shown in the capillaries of the skin, without the child making a single voluntary or spasmodic effort at inspiration.

2. It was demonstrated that the action of the heart is stimulated and continued by supplying the lungs with air. The pulse-rate rose and fell in direct ratio with the attempts at artificial respiration.

"Flint's Physiology" states that, in experiments on animals, "if the heart be exposed in a living animal and artificial respiration kept up, although the pulsations are diminished in frequency and increased in force, after a time they become perfectly regular and so continue just as long as air is adequately supplied to the lungs."

3. That in certain cases the respiratory function cannot be established, owing possibly to injuries to the medulla.

Case II.—Stout German woman. Multipara. I was called to the case and reached the house, according to the mother's statement, a half-hour after the child was born. From the circumstances of the case, I do not think this statement an exaggeration. The mother stated that when the child was born it screamed loudly for a minute, but she had neither heard nor felt it since.

The mother lay on a German feather-bed, resting on her elbow, in a semi reclining posture, thus making at the hips, in the soft bed an artificial pond that contained about a pail of mixed blood and amniotic fluid, lying in which, face downward, was the infant, apparently dead—drowned. It could not have been in that position less than a half hour, as the child was born just as the messenger left the house to summon me. I removed it and quickly rubbed it off with hot water. No pulsation of the heart could be felt and the child was limp and cool. On putting my ear to its chest I could just distinguish a faint thud at the rate of about twenty beats per minute. I put the child into hot water and commenced artificial respiration after the method given in the preceding case. In five minutes I listened to the heart-beat and found it much stronger and at the rate of about ninety beats per minute. No respiratory efforts yet. I resumed my work and in three minutes more (eight minutes from the beginning) the child made its first gasp. In a short time thereafter respiration was well established. The child is now living and healthy.

This was not a case of asphyxia neonatorum, strictly speaking, because the child cried immediately after birth and then was drowned

The case is introduced here because it illustrates two things: 1. The influence of artificial respiration on the heart; the pulse-rate running up from twenty beats per minute to at least ninety beats before the child made any respiratory efforts. 2. The ease with which a child is resuscitated after it has once cried and thus distended its air-cells, as compared with the difficulty of resuscitating a child, no more badly asphyxiated, but whose air-cells have never been distended and are completely collapsed, as at birth.

Case III.—Italian woman, primipara. Large male child, face anterior. A very tedious labor. Child born at length after delay with the shoulders. Badly asphyxiated. I commenced artificial respiration after the method described above. There were no reflex movements in this case. It was just three-quarters of an hour before the child gave the first convulsive, spasmodic gasp. Then ten minutes' unremitting effort before the second respiratory gasp was made. After this the respiratory efforts became gradually more frequent, but it was an hour and forty minutes before the function was established so that the child could breathe alone. Even then it breathed with difficulty, and it was more than twelve hours before the respirations were natural. The child made a good recovery.

Case IV.—Mother a young and fleshy primipara. An exceedingly tedious labor. Instrumental delivery after prolonged traction. The child was born with blue and

swollen face, and apparently badly asphyxiated. Before the cord was tied the child made a single convulsive effort at inspiration, and my hand could feel the heart pulsate. After tying the cord I asked the nurse to cut it. Unfortunately she cut it on the wrong side of the ligature, and, as a consequence, there was a quick escape of about three drachms of blood. The child immediately became blanched and relaxed, and made no further efforts at inspiration. I tried the usual methods of reflex irritation, expecting no difficulty in restoring respiration, but to no avail. I could now not feel the heart beat, and on listening at the chest could just hear that it was beating very faintly, and only about thirty times to the minute. It seemed to me then that the sudden abstraction of blood from the large umbilical vessels connecting so directly with the heart, had caused a shock that had nearly suspended cardiac action. It is an old and almost universally-accepted theory that, in the words of Cazeau: "When the child is born with a general injection of the capillaries of the head and trunk it is evident that the first indication is to relieve the engorgement of the head and lungs, which is done by promptly cutting the umbilical cord, and allowing a few spoonfuls of blood to escape."

It would seem that the theory on which such practice is based, however plausible it may seem, is unsound in fact. Even if there were any evidence to prove that there can be a dangerous congestion of the head and lungs during the labor, the active cause is over as soon as the child is born. Bleeding the child then is like locking the doors after the thief has left the premises. Such congestion, if present, would be best relieved by drawing the blood to the surface and by stimulating the heart, rather than by paralyzing it by abstracting blood from it. There are but eight ounces of blood in the new-born child and "a few spoonfuls" may represent a respectable proportion of the whole amount.

Without dwelling further on this point, it may be said, 1, that it has not been shown that a dangerous passive congestion of the brain and lungs often arises from a prolonged labor; 2, that, even if such a congestion existed, abstraction of blood from the large vessels leading to the heart after the birth is completed is a useless and dangerous procedure.

As a result of the umbilical bleeding in this case, what seemed a simple case of asphyxia was converted into the most obstinate one I have ever encountered. After fifteen minutes of artificial respiration, with the child in the hot bath, it gave a slight convulsive gasp. I removed it and listened to the heart and found it beating faintly at the rate of about sixty beats per minute. Even as I listened the heart rate grew less and the sound fainter, and a pallor spread over its surface. I replaced the child in the bath and recommenced treatment. The capillaries of the skin filled again, and after ten minutes there was another attempt at inspiration. These respiratory gasps becoming more frequent and at more regular intervals, after a half hour I removed the child and tried for a minute the Schultz "swinging method" of artificial respiration. An almost immediate collapse was the result; no more efforts at inspiration, and the lips became blue and the nose cold and white. Again artificial respiration in the hot bath, for thirty minutes continuously (making one hour up to this time), and the spasmodic gaspings were quite frequent, and it seemed as if respiration were on the point of being established. I removed the child and tried first the Sylvester method and then the catheter in the trachea. The gaspings ceased and very quickly the heart pulsations grew slower and fainter. Throughout the whole time during which artificial respiration was kept up in this case (a little more than two hours) the difficulty seemed to be in getting the natural circulation established. In this case, unlike Case I., the respiratory centres seemed ready to assume their function but were delayed by weakness in the circulatory centres. It took two hours or more of almost continuous efforts at artificial respiration before the function was established. Many times I stopped my efforts for a minute or two, or tried other methods, when the heart-rate invariably lessened rapidly, and the case went into a state of collapse.

When respiration was at last established it was slow and gasping for several hours. The next day the child had several convulsions, but these were overcome by the liberal use of bromide of potassium, and the child finally made a good recovery. At this writing the child is eighteen months of age, and mentally and physically bright and strong.

During the more than ten years in which I have practised the method of artificial respiration given above there have been many remarkable cases of recovery from asphyxia, but the above typical cases are sufficient to illustrate the principles of this method.

My conclusions are that in a bad case of asphyxia neonatorum, 1, Direct insufflation of the lungs is imperative; 2, this should be combined with movements to increase the diameters of the thoracic cavity; 3, that throughout the process the temperature of the child's body should be kept at or above 100° F., in order that the action of the heart may not be impeded.

These requisites can be met, so far as known to the writer, alone by the method of artificial respiration given above.

Minor conclusions are: 1. That artificial respiratory movements should be made at the rate of forty per minute instead of twenty, as usually taught. 2. That bleeding from the cord to relieve supposed dangerous congestion of brain and lungs is a useless and dangerous procedure. 3. That the physician should not depend upon palpitation, but upon auscultation, to determine whether or not the infant's heart beats. Many cases of asphyxia in the new-born are declared past recovery when if the ear were placed at the chest it would determine that the heart still beat and that the case was not hopeless. The old controversy whether or not a child can be resuscitated if its heart does not beat probably arose from a misconception—the viewing of the child from different sides. If the physician depends on his hand to determine whether or not the heart beats, as is the almost universal practice, then infants apparently without heart-pulsation may be revived very frequently. If, however, the ear detects no heart-sound, then the case will, indeed, be past recovery. 4. That air in the lungs is an excellent heart-stimulant and together with external heat is a sufficient one.

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Dead Bacilli in Tuberculous Sputum.—The well-known Japanese bacteriologist, Kitasato, who works in the scientific department of Koch's Institute for Infectious Diseases, has made an important discovery, which he records in the *Zeitschrift für Hygiene*. He has discovered, by attempts at cultures from sputa, that the great majority of the tubercle bacilli found in sputum are dead, a fact which cannot be proved microscopically, because dead bacilli stain just as rapidly and as intensely as living ones, from which also they do not differ in form. The same is true of preparations made from the contents of vomicæ. This discovery is of considerable importance, from its bearing on the diagnostic value of preparations from sputum, and on the question of the transmissibility of pulmonary tuberculosis from one person to another. —*The Lancet.*

A Masonic Lodge of Scientists.—The *Revue de l'Hypnotisme* states that there is a Masonic lodge, in Paris, composed of students of philosophy and science, which has the suggestive and thoroughly Gallican title of the "Lodge of Scientific Materialism." Among its members are many physicians, professors of the School of Anthropology, members of the Academy of Medicine, and others.

INTESTINAL ANASTOMOSIS (WITHOUT RINGS) BETWEEN THE ILEUM, AND THE SIGMOID FLEXURE FOR INTESTINAL OBSTRUCTION (NEOPLASM) IN THE TRANSVERSE COLON.[1]

By ROBERT F. WEIR, M.D.,

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THE patient shown this evening is a man aged thirty-eight who entered the New York Hospital, May 5, 1891, with a strangulated, left-sided inguinal hernia, for which, in my absence, he was operated on by my house surgeon, Dr. Albert Stanard. When the stenosis at the neck of the sac had been divided the strangulated omentum in the hernia was tied by silk ligatures in several masses and after its section the stump was pushed within the abdominal cavity. The hernial sac was also tied and divided at its neck, flush with the parietal peritoneum, and the distal portion removed. The inguinal canal, which had been exposed up to the internal ring by section of the aponeurosis of the external oblique muscle, was now narrowed throughout its whole length by the method known as Bassini's, the spermatic cord then replaced, next the divided fascia was sewn over it, and finally the skin. The radical operation supplemented the ordinary operation for a strangulated hernia. Everything went well thereafter—primary union occurred—and the patient left the hospital in four weeks. Two weeks after going home he began to have attacks of cramp in the hypogastrium, which lasted not longer than a minute at a time but were severe. He began also to be troubled with obstinate constipation. Shortly prior to his readmission to the Hospital, September 15, 1891, the physician in attendance detected a hernia in the left hypochondrium, running well into the epigastric region. He had never passed blood in his fæces or urine, though at times considerable mucous was noticed in his stools. He had lost flesh and strength since his cramps developed, though they would be relieved temporarily by a purgative. Examination revealed just above the umbilicus and extending inward from the left mammary line the outlines of a mass, dull on percussion, not movable with the respiratory action of the diaphragm, and separate from the spleen. By lumbar pressure the mass seemed either to be continuous with the kidney or possibly this latter organ itself was enlarged.

September 30th.—Dr. Stimson, then in charge of my wards during my absence abroad, made a five-inch incision along the outer border of the left rectus muscle, beginning one and a half inch below the free border of the ribs. The parietal peritoneum was found to be much thickened over an area of two to three inches in diameter, and to it was glued a portion of the large intestine. This adhesion was with some care and difficulty separated, and then it was seen that overlying and connected with the bowel was a thick mass of tissue with which the omentum and some loops of small intestine were conglomerated. This constituted a tumor of considerable size and beyond surgical interference. It was thought to be a cancerous neoplasm. Inasmuch as the signs of intestinal obstruction were beginning to show themselves, and from the nature of the lesion a stenosis of a serious character was not far distant, it was deemed advisable to make an incision through the abdominal wall, over the cæcum, and to fasten the latter in position, so that when it became necessary an artificial anus could be readily and safely established. The exploratory incision was closed by sutures, and recovery promptly took place without any untoward symptom.

I found the patient convalescing when I came on duty at the hospital, October 7, 1891. In the course of the following month he only had occasional attacks of colic and abdominal distention, which were relieved by a laxative. The provisional wound over the cæcum which, for two weeks, exposed the underlying bowel, gradually closed by cicatrization. From November 1st, the signs of obstruction, colics and constipation, became more decided, and it became necessary to interfere in his behalf. I deemed it wise to lay before him the advantages that I believed would accrue to him from an intestinal anastomosis, and also to point out, at the same time, that its creation was attended with more risk to life than the establishment of the artificial anus would bring. He was fully alive to the discomforts and the disgusting annoyances that would result from the opening in the cæcum. He determined to have the anastomosis made. This was done, November 14th, by a median incision, four inches long, running from the umbilicus downward. The sigmoid flexure was brought out through the wound, being normal, and only hampered by one or two slender but firm adhesions, which were evidently due to the hernial trouble. These being divided between two ligatures allowed the bowel to rest easily outside the abdominal incision. The cæcum was now felt for, and being recognized it was found that its adhesions to the old abdominal wound were so scanty that it was only held to the lower half of the cicatrix, so that if the attempt had been made to establish the artificial anus by simply plunging a knife through the cicatrix, escape of fæces from the opened bowel into the peritoneal cavity, would have been possible. With the cæcum as a starting-point, the ileum was reached, and a loop of it about eight or ten inches from the ileocolic valve, was drawn outside the abdomen, and seen to be capable of being easily adjusted to the sigmoid flexure. These loops were laid on iodoform gauze, with which the rest of the wound was packed during the future operation. I did not endeavor at all to make an anastomosis nearer the seat of disease, not only because, surgically, one desires to get as far as possible from a neoplasm when it is a cause of obstruction and the cause is itself not to be excised, but also because the well-known case of Kocher—where a cæcal opening following a gangrenous hernia had thrown out of use the entire large intestine for over a year without any detriment to the patient's health—had shown that one could safely do the same in this case. Other similar clinical instances of shorter duration all leaned in this direction. A moment's thought also settled that the suggestion recently made of so operating at the time of making the anastomosis as to shut off any fecal current through the large bowel between the cæcum and the sigmoid flexure was unsound in principle as well as adding to the risk of the operation. This, it will be recalled, was proposed to be done by dividing the bowel above and below the neoplasm, invaginating the ends and closing the same by double rows of Lembert's sutures. The similarly sewn ends of the bowel not belonging to the diseased portion are in turn incised and a lateral anastomosis made. I only detail the procedure to express a condemnation of it. This form of lateral anastomosis, I consider, should always be preceded by a resection of the diseased parts, whether a neoplasm, stricture, or a gangrene of the intestine.

In the present case the anastomosis was easily effected by a four-inch incision in each bowel. Two or three bleeding-points required a ligature. The mucous membrane, after the opening in each bowel had been apposed, was sewn together at the ends of the incision, to prevent in this way, if possible, subsequent contraction of the orifice. The union was accomplished by two rows of continued Lembert fine silk sutures introduced with a milliner's round needle. To prevent mishap four or five interrupted sutures supplemented each row of the continued sutures. No rings were used to aid in this approximation of these openings. I have already called attention, in presenting, last spring, a specimen of gastro-enterostomy done with Abbé's rings (which is, I think, in one of the jars now on exhibition before you), to the tendency of the apposed intestinal incisions to slip out beyond the rings. This also occurs with Senn's plates, and in fact is common to all of these contrivances, so that special care in their use is demanded and often the escaping portion

[1] Presented at the meeting of the Surgical Section of the Academy of Medicine, January 11, 1892.

requires to be tucked in between the plates more than once before the restraining outside stitches are finally inserted. And in order to obviate the risk that comes from this, it has been felt by me (and I assume by others noticing the same peculiarity) that, instead of the few stitches advised by Senn to be placed outside the region of the plates, security would only come by a very perfect line of suturing, either continuous or interrupted, in this region. Moreover Senn has spoken of another danger that he himself has encountered. It is that the plate can be too tightly tied together and thus give rise to gangrene of the included intestinal or stomach walls. Animated mainly by these reasons, I abandoned in this case the use of approximation rings of any sort. The time occupied in the operation was about the same as when using the plates. This was about forty minutes. This is longer than if the plates were used without the carefully applied row of outer sutures. I may add in support of the non-use of approximative plates, that in Germany, where gastro-enterostomy has been and is yet most frequently done the old method is still resorted to, and that Czerny for repeated experience does the operation in this way in from twenty to thirty minutes.

After completion of the suturing the intestines were washed off with boiled water, and after the iodoform packing had been taken away from the wound they were replaced in the abdominal cavity and the parietal wound closed. The patient made an uneventful recovery. His bowels moved spontaneously on the fifth day. He was up and about at the end of three weeks. His stools were then normal. He was discharged from hospital December 18th, gaining then in flesh and weight. The tumor is felt yet through the abdominal wall above the umbilicus.

ULCERS OF THE LEG AND VARICOSE VEINS.

Their Treatment by a New and Simple Method, with Synopsis of One Hundred Cases.

By W. W. BREMNER, M.D.,

NEW YORK.

The object of this paper is to call attention to a very simple and successful method of treating ulcers of the leg and varicose veins. It has proved, after an extensive trial, very satisfactory in the relief and cure of that rather difficult class of cases.

This method was suggested by a paper of the late Professor Gamgee, of Birmingham, which appeared in the *Lancet*, several years ago, on "The Treatment of Recent Wounds of the Leg by Dry and Infrequent Dressings." In substance, it is an adaptation of his method to the treatment of ulcers. It is very simple and comparatively easy of application—in fact so simple, that any intelligent and competent person can use it, if the idea is correctly grasped. The advantage of practice is, however, very great, and in every town of any size, a medical man who would devote some little time and care to become proficient in its application, would obtain considerable practice and be the means of giving great relief to many a wretched sufferer. All the cases reported were treated in the city of Manchester, England, but during the last two years many cases have been treated in Canada and the United States, with even more satisfactory results.

In a short paper like this, it would be quite out of place to give any detailed description of the anatomy of the leg or of the circulation in it. It will be quite enough to notice that in the leg the arterial blood has the force of gravity to help it, and the returning or venous blood has this force to overcome. This is one of the great difficulties in treating diseases of the leg; the other is the injury to the general health ensuing from the enforced rest which is usually taken during their treatment. This injury is most marked in elderly persons inclined to stoutness. In health the disadvantage under which the venous circulation labors is counteracted by the strength of the coatings of the veins and the number of valves placed in them, which cause the contractions of the muscles surrounding the veins to force the blood upward. But when disease and pain occur more blood is carried to the limb by the arteries, and the muscles are used much less freely; the blood in this way overloads and distends the veins, so adding to the existing mischief. In course of time the veins become like India rubber tubing which has been over-stretched and has lost almost all its elasticity.

The method by which the writer has succeeded in many cases in relieving this state of affairs, without requiring any rest in bed or cessation of work, is extremely simple, nevertheless he trusts that on this account alone it will not be rejected as unscientific. Its action is chiefly mechanical, and consists, in brief, of the application of a perfectly flexible, porous, and absorbent bandage in such a way as to restore the venous circulation to its normal state, absorb and disinfect all the discharges, and permit at the same time free and painless exercise. The change produced in the nutrition and healthy action of the leg is like that brought about by good drainage in an unwholesome swamp.

Cause of Ulcers.—The most common predisposing cause of chronic ulcers of the leg is a varicose condition of the veins, but whatever may have been the original cause of an ulcer, in the majority of cases, if not speedily cured, a varicose condition is produced. This fact does not receive the recognition it deserves in the larger works on surgery, but is emphasized very strongly by Dr. J. K. Spender, of Bath, in a little book published by him in 1868, in which also the principle of treatment herein recommended is adhered to, though the means adopted differ somewhat. Mr. W. H. Bennett, F.R.C.S. Eng., in some very interesting tables lately published by him in the *Lancet*, gives one hundred and seventy-four consecutive cases of varicose veins of the lower extremity under his care at St. George's Hospital. The percentage of chronic ulcers occurring among them was twenty-eight. Other diseases especially predisposing to ulceration are erysipelas of the leg, phlegmasia dolens or white leg, syphilis, and acute rheumatism. The reason why the first three should create a tendency to ulceration is apparent, but it is very remarkable that twelve out of the last fifty cases herein reported had suffered from acute rheumatism. The first fifty cases of the series were not questioned on this point. It will be conceded that there is no method of treatment known to the general profession which gives much satisfaction. Most of the great writers on surgery treat the subject in a very cursory manner. There are three essential indications to be fulfilled in order to treat an ulcer of the leg with success. First, to restore the circulation to its normal condition; second, to provide for the absorption and disinfection of the discharges; and third, to enable the patient to take free and painless exercise. The method here described fulfils these three indications almost perfectly.

The materials chiefly used are stockinette cotton bandages, three inches wide, in rolls of six yards each; Gamgee absorbent tissue, absorbent lint, oiled silk, or gutta-percha tissue, and ointments composed as below:

℞. Vaseline..... lb. j.
Acid borac. pulv..... ʒ j.
Glycerine..... ʒ j.
M.

℞. Vaseline..... lb. j.
Acid carbolic..... ʒ iij.
Glycerine..... ʒ j.
M.

The boracic and carbolic ointments may be used interchangeably, and will be found very useful in the majority of cases. When the surface of the ulcer is gray, and it is sluggish in healing, carbolic lotion 1 in 80 on lint covered with gutta percha tissue will be found beneficial; and zinc ointment is suitable in eczematous cases, used alternately with the boracic ointment or acetic acid lotion, 1 in 80, on lint under tissue.

Subnitrate of bismuth, dusted on dry, is useful in many cases.

Application of the Bandage and Dressing.—To apply the dressing cut a piece of the Gamgee tissue a little larger than the wound or ulcer, spread over the tissue as thinly as possible some of the ointment thought suitable for the case. The tissue may be split in halves before use, but the gauze side should always be applied to the sore. When there is much discharge two or more thicknesses will be required. The tissue when spread should be laid on the wound, and the first bandage applied as follows: The patient, seated on a chair of ordinary height, should place his foot on a stand of the same height, or on a corner of the chair on which the operator sits, and wherever the wound may be situated the bandaging should be commenced at the foot. The first turn should be made over the centre of the ankle, going under the foot in a figure-of-eight; the second turn should go half an inch higher than the first, again going under the foot, and one turn round the front of the foot close to the root of the toes; the third turn should go half an inch below the first, then under and once round the foot again; the fourth, half an inch over the second, and the fifth, half an inch under the third, each turn going under and round the foot once only for each turn round the ankle, and coming just to the root of the toes. In cases where the ulcer is below the ankle, it is necessary in addition to make two or three turns directly under the heel, coming over the instep in front. The bandage must then be made to ascend the leg by spiral turns of about half an inch each, until the centre of the calf is reached; above the centre the turns should ascend from an inch to an inch and a half each. It is very important to attend to this point, as the bandage exerts all its force at the calf, and if too many turns are put on, the circulation beneath is obstructed. No reverses should be employed. In persons under one hundred and forty pounds weight two rolls of bandage are sufficient; when over one hundred and forty pounds and under one hundred and eighty pounds, three rolls will be required; and when over one hundred and eighty pounds, four rolls. There are six yards in each roll. When more than two rolls are used all but the last should be commenced at the foot; the last roll in every case should be applied from above downward in inverse order to the first. By attending to this, a stocking can be easily drawn over the bandages without disturbing the folds. For this purpose it is well to use a thin cotton or silk stocking, which should only be changed at the time of dressing, the ordinary stocking can be put on over it and removed at bedtime.

In applying the bandages the greatest care should be taken to regulate the pressure in such a way as not to cause stagnation of the venous circulation in the foot. This can be done by always applying rather more pressure to the foot than to the leg. The ideal is to have the pressure graduated in such a manner as to be greatest at the foot, and evenly and gradually less in ascending the leg. The arterial circulation should be almost unaffected, but the stasis in the veins completely overcome by the elastic pressure of the bandages. This is a purely mechanical matter, and is governed by the same laws which regulate the pressure of fluids elsewhere. A varicose leg is like an india-rubber tube, full of fluid, which from over-wear or over pressure has begun to stretch and bulge in places, and in such a tube the greatest amount of pressure would be at the lowest portion.

Changing the Dressings.—The dressings should be changed as seldom as possible; three times weekly is about the average number of times required in order to keep the pressure even and the discharges removed. When the discharge is very great it is necessary to change the bandages every day at the beginning of the treatment, lessening the frequency as the leg improves. Some legs hold the bandage in position much better than others. The attendant must use his own judgment. Some do well changed once or twice weekly, others require changing every day. A simple aid to uniformity in putting on the bandages is to mark a narrow strip of paper into half inches and lay it on the front of the leg as a guide. If these directions be carefully followed, it will be found easy to reduce almost any kind of swelling in the leg.

Bandaging after the Cure.—It is always better to continue the bandaging for at least six months after an ulcer is healed, and in aged persons for a still longer period. This may safely be left in the hands of patients themselves, after explaining clearly to them the method of application. In cases of varicose veins the bandaging must be continued for a still longer time. Two sets of bandages should be used, so as to permit of one set being washed when required. Care should be taken to direct the party who washes the bandages not to disturb the original folds, and in dressing to draw them out sidewise before rolling; on no account should they be stretched lengthwise.

While patients are under treatment they should not be allowed to remove the bandages themselves. When cured, they should be directed to remove them every night and reapply them every morning. As will be seen by the foregoing description, the three conditions of success spoken of above are almost perfectly fulfilled by this method. The stockinette is wonderfully elastic, and compresses the veins most completely and comfortably. The Gamgee tissue is absorbent to a very high degree, and in conjunction with one of the ointments described disinfects and absorbs all discharges, and the thinness and flexibility of the materials used permit of exercise being taken with perfect freedom.

Illustrative Case.—Mrs. T——, aged forty; housewife, with two children; general health good. Ulcer situated just above the inner ankle of the left leg, circular in shape, two inches in diameter, and deep and unhealthy in appearance. She had suffered from it for fifteen years. The leg was much swollen, and the pain "something dreadful." The veins were varicose. The ulcer had been caused by a knock accidentally received. She had twice been an out-patient at Manchester Infirmary, and had been treated by several private medical men. She came under treatment on May 1, 1884. Two rolls of bandage were used (twelve yards in all) and the ulcer dressed with carbolic ointment and Gamgee tissue as described. The dressing was changed every second day for a week, and afterward every third or fourth day. She experienced immediate relief from all pain as soon as the bandage was applied, and was discharged perfectly well on May 31, 1884. On making inquiry in April, 1889, she was still perfectly sound, and had never suffered any inconvenience in the interval. No rest of any kind was given, and she did her ordinary work during the treatment.

The medicinal treatment will not be spoken of. Every case must be treated on its own merits. Free exercise should be enjoined and wholesome and nourishing food recommended It is very important to keep the bowels regular, having a movement at least once each day. Is it safe to heal an ulcer of the leg? Yes, when free exercise is taken during the treatment. In every case treated by myself improvement in the general health took place.

In varicose veins the bandage should be applied as before directed, and will be found on the whole much superior to elastic stockings. In recent wounds of the leg the benefits of this method of dressing are seen to their greatest advantage.

In acute synovitis the equable and constant pressure obtainable in this way often seems to act as if by magic in reducing the swelling and inflammation.

A synopsis of the first hundred cases of ulcers treated was appended to this paper, but is omitted for lack of space. The average period of treatment was about five weeks. Eighty per cent. of the patients were permanently cured, in the remaining twenty per cent. the pain was relieved, and the swelling removed in almost every case.

210 West Forty-second Street.

SOME SUGGESTIONS IN THE MANAGEMENT OF LUNG FEVER.

By HENRY F. WALKER, M.D.,

NEW YORK.

THE progress which has been made in the knowledge of pneumonia has been rather in its diagnosis and its pathology than in its treatment. Auscultation and percussion have revealed to us its early existence in many cases, but in many more, developing centrally, we are obliged, like our grandfathers in medicine, to make a diagnosis by chill, fever, pain, cough, and expectoration, while waiting for a central process to advance to the surface and to earshot. We have not made progress in its nomenclature.

Lung fever is a far better name for this croupous pneumonia than that which usually describes it. Pneumonia, or pneumonitis, ought to be limited to the catarrhal process, involving the deeper tissues, as well as the mucous surfaces of the bronchial tubes, while lung fever should describe the disease which consolidates the lobes, and which, with us, is often so prevalent as to be epidemic. In this pathological study has aided and confirmed clinical experience by proving, as in cholera, typhoid fever, and tuberculosis, the existence of the septic germ. The discovery of this bacillus has settled controversy in favor of those contestants who declared for an essential fever rather than an inflammatory process. If we consider it an essential fever our treatment and care of it will be in some measure changed.

The article, published some months since,[1] based on the treatment of the disease in the Massachusetts General Hospital, gives little commendation to the progress of our more recent therapeusis. In that, it is proven that the death-rate from the disease has been practically the same for many years. I do not, in this short paper, propose any method which shall be better for the relief of any individual case, and so diminish the mortality, but rather to diminish the number of cases and thus protect the community.

Every disease characterized by bacilli of animal origin is, by reason of its character, more or less communicable to others from the sufferer. I would rank lung fever high among the infectious fevers, and, therefore, hazardous to the attendants. The reason is obvious. The poison of lung fever, formed in the lungs, is likely to be found in the exhaled breath of the patients and in the contaminated air of the sick room.

I think no one with a large clinical experience would be willing to deny the possible infectiousness of lung fever. Almost every season of my own practice has demonstrated the probability, until I have been compelled to admit to myself its communicability. The death records in the newspapers cast their evidence on that side. Two weeks since a lady, ill with lung fever, whom I saw in consultation with a friend, was taken a corpse to a neighboring city; and ten days after her daughter, who had nursed her faithfully, succumbed to the same disease. A man whom I knew, a few miles away from here, died January 10th of lung fever, his wife January 18th.

These cases are incidents of the past four weeks, and serve merely as illustrations. The memory of every one of us can recall similar instances, too pronounced to be merely coincidences. If these be facts, and I think they are, they should lead us to treat our cases of lung fever so that the disease shall not spread from the individual to others. As great a measure of isolation is desirable as we should demand in typhus or scarlatina.

If we cannot cure the disease we may prevent its spread by recognizing its infectious nature, and thus, in a measure, stamp it out. It is not usually the trained and paid nurse who contracts the trouble. She is compelled to guard against exhaustion and takes needful rest and food. It is more likely to be the kind neighbor, who, perhaps, has never before "sat up" for a night, and to whom the loss of a single hour's accustomed sleep suggests exhaustion; or still more likely to be a father, mother, husband, wife, or daughter, who, with anxious cares, combines affectionate attentions and expressions of endearment not expected of a stranger or of a hired nurse. It is these who succumb to a poison inhaled.

I dislike the idea of another being added to the list of infectious diseases. The modern man is such a coward as regards disease or death, that to mention scarlatina or diphtheria disturbs a neighborhood. To put lung fever alongside the others would make him a greater brute than before—it would make one thing more to avoid and "pass by on the other side." If we expel every useless person from the room of the patient, and give caution to every one in needful attention upon the sufferer, we shall do something to limit the spread of our most fatal acute disease. It should be among the prime efforts of the physician, where illness prevails, to keep the well ones well.

While useless and curious people are to be excluded from the sick room those who remain are to be instructed as to the most perfect ventilation possible. Some disinfectant, like turpentine vaporized by boiling water, might do good—it is one which would be harmless and perhaps beneficial to the invalid. But the chief instruction to the attendant as to personal care is the avoidance of the breath of the patient. A little prudence in this direction would greatly aid. As I have before said, it is especially to relatives and intimate friends that such warning need to be given. A mother can scarcely be restrained from caressing a sick child, even though it be hazardous to herself.

To recapitulate: Pathology has shown that lung fever is likely to be an infectious disease. Clinical experience, I think, has proved it. If it be infectious it should be treated as far as possible by isolation, and attendants should be warned as to their personal care.

[1] Boston Medical and Surgical Journal of June 27, 1889. Report by Drs. C. W. Townsend and A. Coolidge, in 1822.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY CREOSOTE.[1]

By GEORGE H. PENROSE, M.D.,

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THE subject of my remarks to-night is such a momentous one that I cannot attempt to deal with each different phase of the disease, but shall confine myself to the course and results of my experience in the use of creosote in the treatment of tuberculosis.

My attention was first called particularly to the use of creosote in such cases when Von Driver, in the *Berliner Klinische Wochenschrift*, No. 35, 1888, published the results of his cases under this treatment. Before this, however, there had appeared several articles upon the subject. To Bouchard and Gimbert is due the credit of bringing the use of creosote before the profession in cases of tuberculosis.

Beverley Robinson [2] may be said to be the pioneer of the use of this drug in America, as at this date he began using creosote internally, giving a dessert-spoonful of the United States Pharmacopœial preparation, which represents one minim to the ounce.

In 1885 Professor Robinson, in a clinical lecture at Bellevue Hospital,[3] strongly recommended the use of creosote by inhalations, giving the preference to equal parts of creosote and alcohol.

In 1888 Professor Austin Flint [4] published an article on "Creosote in the Treatment of Phthisis Pulmonalis." In the ten cases reported the drug was used by inhalation as well as by the stomach, the mixture used for inhalation consisting of equal parts of creosote, alcohol,

[1] Read before the District Medical Society of Washington, D.C.
[2] New York MEDICAL RECORD, September 2, 1878, p. 223.
[3] New York Medical Journal, November 14, 1885, p. 533.
[4] Ibid., December 8, 1888, p. 617.

and spirits of chloroform, of which ten to fifteen minims were placed on a sponge. The treatment was begun with inhalations of fifteen minutes' duration, three to four times daily, and increased until the inhalers were used almost constantly, except at night. This was continued from forty-six to ninety-one days. Dr. Flint's conclusions in these cases were, that in cases of solidification without cavities the effect was a prompt and decided improvement in all phthisical symptoms; in cases with large cavities the treatment seemed to have little more than a palliative influence.

Sommerbrodt, of Breslau,[1] in over five thousand cases, has proven that creosote is not merely a useful drug, but that it exerts a specific effect on the disease by the resistance it affords to the cultivation of tubercle bacilli. The author has given the drug in doses as high as twenty-five minims in the twenty-four hours.

It has thus been shown that creosote has been used for a number of years, but you will notice that in every case the drug has been given in small doses, and each author has feared to push the medicine; or when pushed, it had caused so much nausea that it had been early discontinued.

Having a large number of cases of tuberculosis in the hospital with which I am connected, I have been enabled to study the use of creosote in upward of two hundred cases, and can safely say it is pre-eminently the most satisfactory medicament yet used to ameliorate the distressing symptoms of our tubercular patients. Our method of treatment is as follows: As soon as the patient is admitted he is thoroughly examined and a careful note made of each physical condition, his weight is taken, and a specimen of the sputum is collected the first thing in the morning; this is received into thoroughly cleansed porcelain capsules and sent to the bacteriological laboratory, where it is carefully examined microscopically.

Most of the cases of tuberculosis at the hospital of the United States Soldiers' Home are of the chronic variety, and do not report until the latter stage of the disease has been reached. Many have been so low upon arriving as to be required to be transferred from the ambulance to the ward on a stretcher. As soon as the diagnosis of tuberculosis is made and confirmed by the microscope, the patient is placed upon pure beech-wood creosote, in the form of an emulsion of cod-liver oil and acacia, each drachm of the emulsion containing two minims of creosote; of this a tea-spoonful is administered three times a day for the first week, when it is increased to a tea-spoonful every three hours for another week. By this gradual process the system accustoms itself to the drug; should there, however, appear a tendency to nausea, the patient is directed to lie upon his back for half an hour after taking the medicine, when in every case this tendency has disappeared.

About this time we begin to notice an improvement; the harassing cough decreases, the appetite increases, the patients gain in weight, and the quantity of mucus expectorated is lessened. At this point the quantity of creosote is again increased to three minims to the drachm, and the dose given as before. By this gradual method the quantity of creosote has been increased to six minims eight to ten times a day, thus administering from forty-eight to sixty minims in the twenty-four hours. In almost every case where the drug has been administered as above, the results have surpassed my most sanguine expectations. The appetite returns, the weight increases by as much as from thirty-five to fifty pounds, the cough and expectoration decrease to the minimum, or cease entirely, the hectic flush disappears, temperature becomes normal, the night-sweats become a thing of the past, and the number of bacilli decrease greatly or disappear altogether, as has happened in several cases; the spirits rise with the gradual improvement, and a feeling of well-being exists.

As to the physical signs: The coarse mucous râles disappear, the breathing loses its bronchial character; cavities, which were plainly marked before, appear to be lessened in size, and all the signs too well known to be here mentioned show improvement. Yet, in a few cases that have gained in weight, ceased almost entirely to expectorate, and who pronounce themselves as feeling perfectly well, and whose sputum shows a decrease in the number of bacilli, show upon careful physical examination well-marked cavities still existing. Whether or not this be due to the fact that treatment has not been continued long enough, I am not at liberty to express an opinion, nor can I speak positively of the pathological changes which take place, as in but one case has a patient died who had taken the drug long enough to look for marked improvement. In this case, while the edges of the cavity showed unmistakable signs of healthy granulation and contraction, there was not sufficient evidence to say that such changes were due to the drug alone. I hope later to be able to give an opinion based upon researches made in the post-mortem room and the laboratory which will clear these points.

Many authors upon this subject complain of the drug producing such severe nausea that it could not be administered; this, I think, is due to the fact that the drug was pushed too fast, or that an impure article had been used, for much of the creosote which is sold as such is simply a crude carbolic acid, and is injurious to the system; the only preparation I use is from the distillation of beech-wood tar prepared by Merck, of Germany, and I do not think too much stress can be laid upon the necessity of using a perfectly pure article. I have induced Mr. Z. D. Gilman, of this city, to procure the proper drug, and he is now prepared to furnish it. It is possible that the objection as to the nausea may be overcome by the use of guaiacol, obtained by the destructive distillation of guaiac resin or from beech-wood tar, as recommended by Professor Max Schüller.

Another objection is its odor, and many private patients refuse to take it on this account; but may it not be hoped that this objection may be overcome by combining it with some inert substance to disguise its odor without decreasing its efficacy? Even should this be accomplished, the odor exhaled by the lungs cannot be disguised.

Concerning its deleterious action on the kidneys, I can only say that I have never noticed any such action, although I have examined many patients' urine.

In cases of laryngeal complications we have been in the habit of using steam inhalations of creosote combined with glycerine, and have found it all that could be wished for.

I think the result of my cases will compare favorably with those of Professor Schüller,[1] although his were among surgical cases, while mine were all medical cases. In his article he has tabulated 100 cases treated with guaiacol, of which there were 70 cured, 16 improved, 10 passed from under observation, and 4 died. I do not consider that the time of treatment has been of sufficient length, nor that sufficient time has elapsed after the treatment was discontinued, to form tables which can be taken as representing the facts in these cases, and hence I have not attempted them.

But the use of creosote has been of such marked benefit in my hands that I think it my duty to place these results before the profession, and my experience has been such as to agree with Professor Sommerbrodt, that the drug must be given in comparatively large doses, such as I have suggested, and continued for a long period of time.

I do not attempt to say that one of my cases has been cured, but I do say that many are now living and earning a livelihood by manual labor, who would have died long since had it not been for the use of this drug. It should also be noticed that in almost every case in which I have used the drug, the disease has been in the latter part of the second or in the third stage, and that we could not

[1] New York Medical Journal, October 5, 1889, p. 373.

[1] MEDICAL RECORD, January 23, 1892.

look for the same improvement that we might in the earlier course of the disease.

I will not burden you with the histories of any of the cases, as none were marked failures or marked cures, but in each there was marked improvement, and it is because of this gradual improvement that I think we have the more encouragement for continuing the use of creosote in every case of tuberculosis.

In conclusion, I should like to urge the use of creosote in progressive doses, and think that if previous observers had used the drug in larger doses their results would have been better and more decided. I cannot agree with Professor Flint in the assertion that creosote has but little more than a palliative action in cases where cavities exist. In several instances we have noticed decided improvement in such cases.

I do not claim, nor do I think, that we have a specific in creosote, but from careful observation of several hundred cases of this dreadful disease, I do think we have a drug of infinite worth, and, as such, deserving of careful use and more careful study.

CARDIAC THROMBOSIS.

By JAMES KENNEDY, M.D.,

SAN ANTONIO, TEX.

I WAS called to see a patient, about twenty years of age, who, according to the history obtained, had been ailing for about ten days; prior to this time she had been enjoying perfect health.

The physician in whose charge she had been from the commencement of her illness stated that she had complained of a headache which was very severe, but no other symptom could be elicited. Not being able to make a diagnosis his treatment had been directed toward the relief of this symptom.

When I saw the patient she was delirious, and had been so for some hours. The delirium had been of an active type, but now the patient was bordering on coma. The pupils were dilated, the skin was cold, and the pulse feeble and indistinct. Breathing appeared natural, although I neglected to auscultate the chest. A grumous material was vomited at the time I saw her. She passed into coma and died a few hours afterward.

I held a post-mortem examination upon the body of the deceased in order to ascertain the cause of death, and as all of the symptoms pointed toward the brain as being the probable site of injury or disease, that organ was carefully examined. It was very pale and bloodless, but no embolus or other lesion could be discovered to account for the anæmic condition.

The cerebral anæmia that existed served to explain the headache, dilatation of the pupils, the delirium, and coma that marked the close of life, but did not suffice to explain the cause of death in the absence of any other lesion. The thorax was opened and the contained viscera examined. This examination revealed the presence of a gelatinous clot filling the ascending and transverse aorta. The thrombus was of a yellow color, and slipped out of the vessel as soon as it was severed from the heart.

The discovery of the existence of this body was quite sufficient to explain the anæmic condition of the brain that evidently existed during the illness of the deceased.

On examining the heart a clot was found in either ventricular cavity very similar to the one already described, but paler in color, firmer in consistency, and more elastic. Each one was adherent by its base to the columnæ carneæ and musculi papillares, and fibrillar prolongations extended to and were lashed around the chordæ tendineæ. There was no discoverable lesion of the heart itself, the vessels, or any other viscus.

There can be no reasonable doubt that these thrombi were formed during the lifetime of the individual,[1] and that the gelatinous portion, which must have been of more recent formation than those found in the ventricles, became detached from the one found in the left ventricular cavity, and during systolic contraction escaped through the aortic orifice and was carried by the blood-stream into the aorta, where it was arrested, probably because of the resistance offered by the aortic curve being greater than the propulsive force behind it, and produced the symptoms which eventuated in death, not by entirely occluding the great blood-main, but by causing an amount of obstruction incompatible with the perfect nutrition of important centres so necessary to the perpetuation of life; and thus by a process of starvation causing a certain and complete failure of those centres.

The symptoms and manner of death seemed to warrant the above inference. If complete occlusion of either the ascending or transverse portion of the arch of the aorta had suddenly taken place death would have occurred much earlier.

Cardiac thrombosis being caused by coagulation of the blood within the heart, a few words relative to the conditions which favor this process are deemed necessary for the better elucidation of our subject. These are, briefly:

1. Obstruction to the flow of blood through the heart. Under this head we include stenosis of any of the orifices of the heart or blood-vessels, valvular insufficiency or diminution in the contractile power of the heart-muscle, whether due to degenerative changes or defective innervation (this latter, of course, is not really an obstruction, but is a cause of slow circulation through the heart, and in this respect acts as a favorable condition to the formation of a coagulum).

2. Changes in the composition of the blood. Whenever the fibrin factors are increased there is an exaggerated tendency toward coagulation. In the physiological condition known as pregnancy, as well as in the pathological conditions known as Bright's disease, phthisis, fibrinous pneumonia, and rheumatism, the tendency of the blood to coagulate is markedly increased.

3. Inflammatory changes in the heart itself—such, for instance, as endocarditis, particularly the ulcerative variety, wherein a roughening of the valves occurs which favors the deposition of fibrin.

However, it is well known that while these conditions favor coagulation of blood within the heart, they are, after all, only predisposing factors in the production of cardiac thrombi, for it has been found that any one of these conditions may exist and yet no thrombus be formed. Hence the problem of the etiology of cardiac thrombosis remains but half-solved until the determining cause be discovered. Since none of the conditions enumerated as favoring the production of "heart-clot" were found, either by post mortem examination or in the history of the case, this fact constitutes the essentially interesting feature of our paper, and suggests that there may be other conditions which are not distinctly pathological and have no symptomatology to characterize their existence, but which are yet capable of producing such changes in the composition of the blood as to favor its coagulation—cases, for instance, in which there is a deviation from the normal standard of nutrition and in which there is no organic visceral lesion.

That there is a great difference in the activity of the nutritive processes within the limits of health no one will deny, and that the composition of the blood will vary according to the activity of those organs concerned in its production is, I believe, an established physiological fact. It is possible that the condition known (vaguely) as fibrinosis may have an existence separate from those causes to which it is usually attributed, dependent entirely upon the relative activity of the various blood making functions.

[1] The color and consistency of the thrombi are sufficient to establish their ante-mortem character.

Diet for the Bald-headed.—Sufferers from premature baldness are now recommended to live on a diet of brown bread and oatmeal, which is said to possess remarkable virtue in promoting the growth of hair.

Clinical Department.

PYOSALPINX FOLLOWING MISCARRIAGE SUCCESSFULLY REMOVED.

By JOHN R. HINKSON, M.D.,

BLISSVILLE, LONG ISLAND CITY, N. Y.

Mrs. E——, aged nineteen, resident of New York City, was seen by the writer on July 3, 1891. She had miscarried at the fourth month, nine days previously, and was now suffering from intense pain in the left iliac region which became at times paroxysmal; her temperature was 102° F., and her pulse 120; she also had a purulent discharge from the uterus.

Believing it to be a case of incomplete abortion, a laminaria tent was inserted in the cervix, and the uterus curetted on the next day, when some pus and *débris* of membrane swere removed. It was noticed that the curette passed to a greater depth on the left than on the right side. After this operation the temperature and pulse fell to normal, the pain in the left side was also much diminished, only an occasional paroxysm occurring, but the discharge from the uterus continued. The patient remained in the state already described for about nine days, when the pain and fever returned with all their former intensity, and her condition became even worse than when she was first seen.

It was thought that the curetting might have been imperfectly done, and fourteen days subsequent to the foregoing operation, the uterus was again curetted, the cervix having been previously dilated with a laminaria tent. Some pus and pieces of membrane, having no resemblance to fœtal structures, were removed, and tincture of iodine was applied to the interior of the uterus. The temperature again fell to normal and the pain was greatly lessened. This condition lasted about three days, when the patient relapsed to her former state and a tumor was discovered in the left iliac region, parallel to Poupart's ligament. The tumor was sausage-shaped, being constricted at intervals; it was plainly felt on deep pressure through the abdominal wall, but could not be reached by vaginal examination. A pyosalpinx was diagnosed, and, on July 29th, laparotomy was performed at the patient's residence, which was a crowded tenement in New York City.

Having etherized the patient, an incision two inches long was made in the median line of the abdomen, and on cutting through the peritoneum a considerable quantity of clear serum escaped. On exploration the tumor was found to be the left Fallopian tube, much distended, and intimately adherent to the intestines and omentum. The incision was enlarged to four inches, and some of the intestines allowed to escape, it being found impossible to separate the adhesions with all of the intestines in the abdominal cavity. This having been done, the pedicle, which was four inches broad, was clamped with two of Wells's pedicle forceps and ligatured in sections, the tumor being finally separated with the actual cautery. The abdominal cavity was irrigated with Thiersch's solution, drained with iodoform gauze, and the wound closed by interrupted sutures of wire inserted half an inch apart. The dressing was composed of iodoform and mercuric and chloride gauze, over which was applied a layer of absorbent cotton.

The patient vomited incessantly for three days after the operation, her temperature ranged from 99° to 100.6° F., and her pulse from 100 to 120; she had also considerable pain, and morphine was administered hypodermatically in doses of half to three-quarters of a grain every three hours. On the second and third days nutrient enemata containing eggs, milk, and brandy were given every five hours.

August 2d.—The vomiting ceased, the temperature and pulse became normal, and the patient was allowed her customary diet.

August 3d.—Dressing changed; gauze employed for drainage removed; wound irrigated with hydrogen peroxide; no suppuration, ncr any offensive odor; temperature and pulse normal; diet as before.

August 4th.—Temperature and pulse normal, bowels moved by enema.

August 7th.—Dressing changed; sutures removed; irrigation with hydrogen peroxide; temperature and pulse normal; slight diarrhœa.

After this date the dressing was changed every four days; the diarrhœa, which was probably due to the bad hygienic surroundings, continued for a week. The wound was found to be completely healed on September 25th, the patient having left her bed on the twentieth day subsequent to the last operation.

HIGH TEMPERATURE IN AN HYSTERICAL PATIENT.

By C. M. ALEXANDER, M.D.,

COLEMAN, TEX.

I was called to see Miss E——, about twenty-two years of age on July 13, 1891; found her suffering with dysmenorrhœa, and to all appearances she was having hysterical convulsions. With the aid of ordinary remedies she was up and about in five or six days.

I saw her again in October, and she was suffering in the same way. After this she went to the country, eight miles distant, and commenced to teach school. In February Dr. L—— saw her, at which time, to all appearances, she seemed as though there was no serious trouble. On taking the temperature it was found to be 110° F., and was so for three or four days every afternoon. I was called in consultation about the fifth day. I found the temperature 108° F., and in one hour the mercury rose to the top of the thermometer, which registered 112° F. I had a good Hicks thermometer, with Yale certificate, and placed it under her arm, and in three minutes it broke. Dr. L—— had one of the same make, which broke in less than three minutes. We found a certified Hicks thermometer registering 116° F., but this also was broken in a few minutes after placing it in the axilla. The appearance of the patient was good, and one to see her would think there was but little the matter. The bowels were in good condition all the time. She never complained of anything except a little numbness about 1 P.M., for three or four days. At the end she began to suffer with neuralgia of the face. I at once put her on cinchonidæ salicylate tablets, five grains every three hours, with ten grains once a day of antikammia. She is now up, going anywhere, and in as good health as anyone. The temperature is normal.

Some six or eight physicians saw the case, and all verified the high temperature, although they were very sceptical at first. As to how high the temperature would have gone I could not tell, as 116° F. was the best I could ever get from my thermometer, when the mercury rose to 116° in three minutes, and the instrument then broke.

Curious Case of Lead-poisoning.—The sanitary authorities at Leith are engaged in an interesting investigation as to the cause of a wholesale poisoning of a ship's crew by lead. It appears that as far back as 1890 a bark left Leith for New York and Melbourne, having been provisioned by a Dundee merchant, who had purchased the sugar for the crew in Amsterdam. Shortly after starting the crew began to fall sick, and, one by one, were reduced to such a condition that it was with the greatest difficulty that the ship could be worked. One of them died. It was then found that they had all been poisoned by lead, and, the provisions being examined, it was found that the sugar was to blame. No one yet knows how it came to be contaminated by the lead.—*Medical Press.*

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THE BURDENS OF MEDICAL LIFE AND A REMEDY.

A CURIOUS paper called the *Twentieth Century*, which treats in an amusing way the social problems of present and future centuries, quotes, with comments, a paper on "Ideality in Medical Science," by Dr. M. J. Burstein. This paper was originally published in *The Doctor's Weekly*. Its author describes in a vivid manner the exacting demands made by the public on the physician of to-day:

"The young physician," he says, "beginning his professional career, finds great difficulty in making a living." And the public make tremendous demands on him. They "demand of him the development of science; to study medicine; to read journals; to join medical societies; to pore over countless articles; to go to hospitals; to see operations; to buy books; to buy periodicals; to buy surgical instruments; to examine his patients thoroughly; to make a correct diagnosis; to be careful in obstetrical work; to write prescriptions carefully; to consult his books in all cases of importance; to keep his office hours strictly; to attend to his patients regularly; to be ready for any emergency; to go promptly at night, when called; to be charitable; to not sue for non-payment of his fees; to keep accounts; to support his family; to dress himself as a 'doctor'; to not keep away from society. This is too much, entirely too much, for the poor physician. He must be rich, he must be educated, he must have seventy-two hours' time to accomplish a day's work, and even then it would be almost impossible for him to fulfil all these requirements."

The result is, we are told, that some physicians are not strictly honest in their dealings with their patients. They do not always seek counsel when it is needed, for fear of losing standing with the friends or losing the case altogether. They do not always report contagious diseases for fear of offending the family or injuring the patient's business.

Dr. Burstein's remedy is this: "Let the doctors of each and every State form an 'Order,' with a grand medical board (or call it State Medical Board, if you like). This board should have its subordinate or county societies; which, again, should subdivide into districts. Each district should have a certain number of physicians, according to the density of the population. A physician should have a certain number of patients under his care, or he may be appointed by the Grand Medical Board to a fixed number of families living in his district. Physicians may be subdivided into three classes, according to their standing in the profession: regular, attending, visiting, and consulting. These would be paid by the State in accordance with their standing and service, the average salary suggested being $3,500 a year.

The *Twentieth Century* does not think that this would be a good plan. We are inclined to think that the nineteenth century will agree in this case with the twentieth.

We believe, also, that the ingenious Doctor rather exaggerates the pains and difficulties of medical practice. At any rate, they do not deter an unnecessarily large number of estimable gentlemen from entering it. No physician, who takes any interest in his profession, finds it a task to take and read the medical journals, particularly the MEDICAL RECORD, or to study up his cases, or to see operations, to attend to his office hours, to dress himself well, and mingle with his fellow creatures. This is the fun of it. Of course bad bills, ungrateful patients, dangerous cases, large and expensive families, make life somewhat of a trial; but we fancy that there are burdens to be met in every kind of work. And no Grand Medical Order could do away with those of the physician.

CURING INEBRIETY BY STATUTE.

CIVILIZATION is advancing with a whoop in the happy, golden State of Iowa. Having tried to prohibit the use of alcohol, with some lack of success, it proposes to take up the other end and cure by State enactment all its victims. If the good citizens cannot kill the roots they will pluck the fruit and extract its poison. A bill has been introduced into the State Legislature to create County Boards of Dipsomania. They will have the power to see that all inebriates are treated and cured of their unfortunate infirmity. They are to be taken and placed in certain institutions where the county or the patient, as the case may be, shall pay $25 a week till the thirst for strong drink has passed away.

MEDICINE AT THE WORLD'S FAIR.

SOME of the States are taking steps to have the medical and sanitary advantages of their respective localities represented at the World's Fair.

Dr. W. H. Baldinger, of Galveston, has issued a card to the doctors of Texas, requesting them to send him minerals, shells, or other products, representative of their counties, from which he proposes to construct a "Statuette of Hygeia," to be exhibited at the World's Fair in 1893, and at the Texas Exhibit at Galveston in 1892.

The State Medical Society of California has passed resolutions recommending that a papier-mache map of the State be prepared, showing the various forests, rivers, and sanitary resorts; also that $500 be awarded to the best essay on the climate of California. The *Pacific Medical Journal* adds sarcastically: "Many of our institutions would no doubt be exceedingly interesting to archæologists; and models of our dusty and ill-paved streets, of our Receiving Hospital, Pest-house, and jail, and of the ruins of the New City Hall should be given a

prominent position in the antiquarian exposition building."

We await the action of the profession of this State in the matter of representation at Chicago.

It is doubtful if we could compete with the Cook County Hospital of that city and the serene and scientific atmosphere which surrounds it and its indicted Aldermen. But we might send a section of our $2,000,000 clean streets, and give them a representation of a coroner's jury trying a railroad case, or endeavoring to make political capital out of an ambulance surgeon. The workings of our hospital and dispensary system, by which we succeed in treating 100,000 well-to-do people for nothing, annually, might also prove of interest.

New York ought certainly to do something. It is a resourceful State, with a population of five or six millions, according to one's politics.

THE PROPHYLAXIS OF GONORRHŒA.

A WRITER in *The Therapeutic Gazette* has been studying with an enthusiasm worthy of a good cause the subject of the prophylaxis of gonorrhœa. His conclusions are indicated in the following paragraph which also gives a hint as to the somewhat erythritic condition of young Philadelphia:

"Undoubtedly," Dr. Martin says, "the best method of accomplishing prophylaxis is by forced urination. Before coitus the bladder should be moderately full, and immediately after the act is accomplished urination should follow, the stream being interrupted from time to time by pressing a finger against the meatus, so that the urethra may be widely dilated, and the acid urine may gain access to its crypts and follicles. Frequently a single emission is not followed by subsidence of erection, the penis not becoming sufficiently flaccid to allow of urination until two or three orgasms have been experienced. Of course, under such circumstances, the risk of contracting gonorrhœa is greatly increased; but it is probable that even in these cases the disease can be avoided in the very great majority of instances by prompt urination in the manner already described."

There is one way of preventing gonorrhœa which does not seem to have occurred to the virgin mind of the writer of the above. It is embodied in the seventh commandment.

CARING FOR INFANTS IN FRANCE.

FRENCH statesmen, despairing of obtaining any increase in the birth-rate in their land, are now turning their attention to the saving of the few children that are born, and some very stringent laws have recently been enacted. It is now forbidden, under severe penalties, for any one to give to infants under one year any form of solid food unless such be ordered by a written prescription signed by a legally qualified medical man. Nurses are also forbidden to use in the rearing of infants confided to their care, at any time or under any pretext whatsoever, any nursing-bottle provided with a rubber tube. A few weeks ago Dr. Ledé, Secretary of the Superior Committee for the Protection of Infants, was commissioned by the French Minister of the Interior to investigate and report on the various measures whereby the conditions of transport of sucklings sent from Paris into the provinces could be improved.

Efforts are also being made to break up the system of baby-farming, and to induce French, or rather Parisian, mothers to nurse their own infants.

Much of this action by the authorities has been at the instance of members of the Society for the Protection of Children, a comparatively recent organization, whose object is definitely expressed in its name. The president of this society is Dr. Rochard, who has preached the gospel of caring for infants for many years. He was one of the first to sound the alarm at the decreasing population of France, but for a long time his voice was like that of one crying in a wilderness. Only eight years ago, when in a public discourse he predicted that the population of France would be stationary before the end of the century, he was laughed at, and the press called him an alarmist. But his vindication as a true prophet has come even sooner than he anticipated.

At a recent meeting of this society, which was founded mainly by his exertions and in consequence of his note of warning, Dr. Rochard stated that France loses every year 250,000 infants, and that out of this number there are at least 100,000 whose lives could be saved with intelligent care. These lives were the more precious in the present period, for France could no longer afford to lose them, since in a single year the deaths outnumbered the births by nearly forty thousand. It was not easy, he said, to add to the births, but it was possible to diminish the death-rate among infants. If the 100,000 preventable deaths among infants were prevented, or if even one-half of the number of lives now needlessly sacrificed to ignorance or carelessness were saved, France would soon be repeopled.

But would not many of these saved children be weaklings, whose preservation would serve rather to lower the actual strength of the nation, although increasing the total number of its citizens?

MALPRACTICE INSURANCE.

THE directors of an accident insurance company of London advertise that they have made arrangements to insure druggists against claims arising out of errors in preparing medicines, or by or through any act or omission on the part of either assistants or principals, including legal charges for defending any actions that might have to be contested.

The next move will doubtless be to insure physicians against malpractice suits, or rather against the expense of defending them and against any possible damages. The idea seems a little odd at first, but it looks less so when it is considered for a while, and it certainly would be a boon to the physician unjustly accused of negligence, and would relieve him of the expense of such suits, although not of the odium, if he were adjudged guilty. However, if people knew that the physician was backed by a rich corporation which would not shrink from the trouble of contesting a suit, and which would place the best of legal talent at the service of the accused doctor, they would be less likely to bring a suit out of spite or in the hope of turning a dishonest penny, motives which lie at the bottom of a large proportion of malpractice suits.

We commend this move to the managers of our American accident companies, for we believe such a departure would be of mutual advantage to the insurer and the insured.

WHOLESALE GRAVEYARD INSURANCE.

THE *Medical Press* of recent date comments upon a statement of a correspondent of one of the London dailies, bringing a very serious indictment against the medical profession, as well as against the insurance system in use among the lower classes. He says that in his district (Lancashire) a *good* doctor, for insurance purposes, is known to be a practitioner who will habitually give false certificates of death for insurance purposes, and a *bad* doctor is he who insists on telling the truth as to the cause of death. The smaller insurance companies, it appears, do business up to £25 on any life, without previous medical examination, and there being no evidence in these cases of the condition of health of the patient at the time of insurance, the moment a patient is declared to be incurable the relatives and friends proceed at once to get as much money on the life as they can. The patient, of course, soon dies, and it is alleged by the correspondent that the doctor is expected to facilitate the recovery of the policy amounts by certifying old-standing phthisis as bronchitis of three weeks' duration, cancer of three years' growth as a tumor of three weeks, and so forth. If he is troubled with a conscience and objects to certify to lies, he forfeits a valuable connection, and the local insurance agents "boycott" him because his preternatural truthfulness prevents them from doing what they consider to be legitimate business. It would be interesting to learn the ratio of "good" and "bad" doctors in Lancashire. Possibly, and this is to be hoped, the correspondent was simply generalizing on the knowledge of one or two specific instances, and thus, as certain o'erguid people are prone to do, libelling a whole class because of the sin of a few individuals.

FOREIGN PHYSICIANS IN FRANCE.

A SOCIETY has just been established in Paris of foreign medical men practising in France. The number of these in Paris is said to be about two hundred and fifty, or one-tenth of the total number of doctors in that city, but most of them studied medicine in the country and so may, except for the accident of birth, be regarded as really French physicians. The *Bulletin Medical* says that about one hundred foreigners apply every year for authorization to practise medicine in France, but that not more than half this number enter for the required examination. A few each year receive an authorization to practise from the Minister of the Interior without passing any examination, but in this case the right to practise is usually restricted to certain districts, as at Nice or Cannes, and may also be revoked at any time by the Minister. The same journal remarks that although there have been some very successful foreign specialists in Paris, there have also been many failures, and it instances a number of these who have either given up the practice of medicine entirely, or have packed their trunks and betaken themselves to South America or elsewhere, in the hope of scoring a success at last.

A SUICIDE CLUB.

A CABLE dispatch from Bucharest reports that the Roumanian authorities are much stirred up over the discovery of a club formed among the cadets of the Roumanian Military School, at Krajova, the members of which were pledged to commit suicide as soon as their names should be drawn. The cadets belonged to the upper class in Roumania, and the members of this club were all the sons of prominent families.

The club is said to have originated in one of the cadets having read, some time ago, of the existence of such a club in America. He called the attention of his associates to the matter, and at first, in jest, they entered into a compact of a similar kind. The survivors have confessed that they were not really in earnest when they began, and were greatly shocked when the first whose name was drawn drew a pistol without a word of warning, and shot himself dead. The others then felt bound in honor to follow his example, whenever their names came out in the fatal lottery. Others were admitted to the club, until it numbered nineteen members. Five cadets in succession took their own lives this week, all in the same manner, by shooting with a revolver, and all without apparent notice. The authorities of the school became alarmed and instituted an investigation of the mystery, the result of which was the discovery of the Suicide Club. It is said that the surviving members of the club will be tried for murder in having deliberately aided and abetted unjustifiable suicide, and it is probable that the ringleaders at least may be convicted and shot according to military law.

The American story referred to, upon which this tragedy was built, was of course pure fiction. It was written by a newspaper man, who never intended and never dreamed that it would be taken in earnest by anybody. It is almost incredible that the mere fancy of an ingenious American writer should have resulted in an epidemic of self-destruction among the flower of the youth of far-off Roumania.

The Champion Tooth Extractor.—The champion tooth drawer of the world is said to be a monk, Fra Orsenico, of Rome, who operates by the Japanese method —that is, with the simple instruments provided for him by nature in the shape of his thumb and forefinger. His extractions average one hundred a day, but there are days (perhaps when an east wind is blowing) when the number does not fall far short of four hundred. The good brother seems to be as proud of these dental trophies as an Indian brave of his scalps. He has two boxes containing thousands of more or less dilapidated teeth from which he has delivered his patients; these are kept open in his operating-room, doubtless *pour encourager les autres*. There seems to be some doubt as to who has the honor of having extracted the largest number of teeth at one sitting. An American dentist, Dr. Thomas Sneel, is said to have relieved a gentleman of twenty-seven in five minutes, but a Plymouth doctor seems to have broken the record by extracting thirty-one at one fell swoop. He would, doubtless, have given an epic completeness to his work by drawing the thirty-second, but, unfortunately, nature had been beforehand with him.—*British Medical Journal.*

News of the Week.

A Bill to Prevent Dissection.—It appears that one Senator Smith has been introducing at Albany a bill prohibiting all disposition of human bodies except by burial. Knowing the material of which the present legislature is composed, nothing can surprise us, but this special Smith must be even more so, as it were, than the others. Go back to your ash cart, Senator Smith, to your saloon, your tonsorial palace or whatever you ran for a living before you went to Albany, and try not to mortify us. Perhaps the safest way will be for you to consult some educated adult before exposing yourself again.

A Curious Patient.—As good an instance of surgical wit as can be found is still told about the staff of one of this city's hospitals. A dangerous operation was being performed upon a woman. Old Dr. A——, a quaint German, full of kindly wit and professional enthusiasm, had several younger doctors with him. One of them was administering the ether. He became so interested in the old doctor's work that he withdrew the cone from the patient's nostrils, and she half roused and rose to a sitting posture, looking with wild eyed amazement over the surroundings. It was a critical period, and Dr. A—— did not want to be interrupted. "Lay down dere, voman," he commanded, gruffly. "You haf more curiosity as a medical student." She lay down, and the operation went on.

Death of a Specialist in Duello Surgery.—Dr. F. Immisch, of Heidelberg, recently died. He achieved great fame as specialist in the surgery of the duello among successive generations of the combative youth of Heidelberg, having, during forty years of practice, officiated at more than thirty thousand "affairs of honor;" the remains of Dr. Immisch, who was seventy-two years of age, were, in accordance with his own request, burnt in the new crematorium at Heidelberg.

Paracresotic Acid, a New Antipyretic.—Egasse draws attention to the value of paracresotic acid as an antipyretic. It has been employed in the form of a cresotate of soda by Loesch, who found that doses of 6 to 8 grammes were perfectly well borne by adults. Demme has chiefly employed the drug in children for its antipyretic and antifermentative action. He finds it of great benefit in acute articular rheumatism, having somewhat the same action as salicylic acid, while it is better borne. In the catarrhal pneumonia of children it has been employed in the dose of 10 centigr. every two hours, and has shortened the course of the disease and rendered recurrences less frequent. In typhoid fever it diminished the diarrhœa. It also gave good results in the gastro-intestinal catarrh of nursing women. The maximum daily dose for young children should not exceed from 0.5 to 1 gramme, but young adults may take from 3 to 4 grammes daily.

The Pupils of M. Charcot celebrated his recent promotion to the rank of Commander in the Légion d'Honneur by a banquet. Thirty-five guests were present, the invitations being restricted to M. Charcot's former and present *internes* and *chefs de cliniques*. The toast of the evening was proposed by Professor Cornil. M. Charcot, in replying, said: "Je suis trop ému pour vous répondre; mon cher Cornil, laissez-moi vous embrasser." An *accolade* was in true French fashion bestowed after each speech. Finally M. Charcot rose and announced the successes of his pupils.

The New York Otological Society has recently been organized. The meetings are held upon the third Tuesday of November, January, March, and May. The work of organization was completed at a meeting held on March 22d, at the house of Dr. Gorham Bacon, at which time the following officers were elected: *President*, Dr. Albert H. Buck; *Vice-President*, Dr. Emil Gruening; *Secretary*, Dr. E. B. Dench. The first regular meeting will be held on Tuesday, May 17th, at 8 P.M.

Chicago Water and Chicago Fever.—The *N. A. Practitioner* says: "No one can deny that the water is bad. A student of the Institute of Technology of Boston spent most of last summer at the Post-Graduate Medical School, making bacteriological studies of the water in the pipes and in the lake. These studies furnished without doubt the basis of the Boston newspaper tirade on our water supply. The health department does not conduct any bacteriological studies. That they still resort to chemical examination of water shows that they have no conception of what should form the basis of study. Our Drainage Trustees are spending time and money without in any way meeting the needs either of the future or of the present. The newspapers howl, but nothing comes of it. The sewers still empty into the lake, and the barges still carry out their loads of garbage and offal and dump them beyond the breakwater. Two thousand patients died of typhoid in Chicago last year. This means that six times as many were sick with the disease. It is safe to say that each one of these was unproductive, if not an actual expense, during eight weeks."

The Brooklyn Dermatological and Genito-urinary Society has been organized, with Dr. Samuel Sherwell as President, Dr. A. E. Smylie as Vice-President, and Dr. George D. Holsten as Secretary and Treasurer. The meetings, which are private, are held on the first Friday of each month, except July, August, and September.

Arsenic in Household Utensils.—Massachusetts is becoming more lenient toward arsenic. A legislative commitment has recently reported unfavorably on a bill prohibiting the manufacture of household articles containing arsenic.

The Woman's Medical School at Johns Hopkins University.—The trustees of the medical department of Johns Hopkins University received last May, about $111,000 as a preliminary endowment obtained by the Woman's Fund Committee, for the purpose of securing for women medical instruction at the University. They also received a promise of $100,000 to be paid in February of this year, on condition that the sum necessary to make up the half-million dollars should be raised by that time. The time is now past, and the money has not been raised.

The Duodecimal System.—The Dosimeter system threatens to be superseded by the Duodecimal system. At the meeting of the Academy of Medicine of Paris, February 2, 1892, M. Polaillon read a paper by M. E.

Trouette on a new method of posology by duodecimal dosage of toxic remedies. This method should be applied to the alkaloids and all dangerous preparations. With this system of medication there would be no chance of error or accidental poisoning. It consists in dividing into 12 pharmaceutical doses (granules, pills, confections, wafers, capsules, pastilles, etc.) the maximum dose of a remedy that may be safely given to an adult within twenty-four hours. Each dose represents then the twelfth part of the maximum daily dose, so that, whatever the remedy, 12 doses may be ordered with safety in the twenty-four hours; as, for example, 1 cachet every two hours or 2 cachets every four hours, or, if the case be an urgent one, 12 cachets may be given at once. The number 12 represents the maximum dose for an adult; but it must not be forgotten that this dose varies according to age, sex, habits, tolerance, the stage of the illness, and many other circumstances that might be mentioned. M. Polaillon concludes that this method is an excellent one, and would be of great advantage if it were generally adopted.

College Commencements.—The Western Reserve Medical College graduated a class of thirty-four at its last commencement.

The War Against Quackery, in Louisville, is just now being vigorously pursued by the State Board of Health through its able secretary. Some notorious quacks have been forced to quit the field, and it is only a question of time when the city, as well as the State, will be purged of these getters of money under false pretences.

The Death of Dr. Meymott Tidy, the well-known author of the "Treatise on Legal Medicine," is announced.

Professor Crede, the distinguished gynæcologist and obstetrician, died at Leipzig on March 14th.

The Royal Medical Society, of Vienna, is to have a building of its own. The emperor donates 5,000 florins for this purpose.

A Columbian Medical Congress at Madrid.—A meeting of representatives of the medical profession throughout Spain was held at Madrid the other day, under the presidency of Dr. Aguinaga, to consider the expediency of organizing a Spanish-American Medical Congress, to be held at Madrid this year, during the celebration of the quadricentenary of the discovery of America by Columbus.

Ether Drinking.—The practice of ether drinking, which had become so common as to cause considerable alarm in Ireland, has begun to diminish as a result of very stringent laws. But it has been discovered lately that the habit is rapidly spreading in Russia, to such an extent indeed that the Government has found it necessary to prohibit the sale of ether, and of substances containing it, such as Hoffman's anodyne, except under severe restrictions. In Paris, also, ether drinking has become quite the fashion. It is taken there usually with cognac.

Found at Last is the place where a doctor is wanted—at least *was* wanted, for there are probably several there by this time. The place is North Gisborne, New Zealand. The residents of the place have guaranteed $1,000 per annum to any physician who will settle there, and the Government has promised to add another $1,000.

Busts and Pictures are Unsanitary, dyspeptic, and unsafe, according to Paris hospital authorities. M. Peyron, the Director of Public Assistance, lately received a portrait of Dr. Gallard and a bust of Dr. Roger; the former he proposed hanging in the gynecological ward of the Hôtel Dieu, and the latter in the Roger ward of the Children's Hospital, but the Conseil de Surveillance objected on sanitary grounds. Dr. Félizet, a pupil of Dr. Dolbeau, wished to place in the operation theatre a bust of his late teacher, but the Conseil de Surveillance again objected, and henceforth all busts, and portraits, and art objects whatsoever, given to hospitals, will be placed in the *Salle de Médecins*, where such rigorous antiseptic measures need not be observed as those enforced in wards and operation-rooms. If this particular wave of thought strikes New York, we tremble at the æsthetic loss which may result. The chromos, crosses, immortelles, and scriptural verses which adorn our hospital wards will have to go and the suffering patient will have to contemplate the unrelieved continuity of aseptic walls.

Notes on Italian Surgery.—Dr. Edward Haughton writes to the *British Medical Journal:* "In my brief stay at Naples and Genoa I have taken note of the sanitary state of these towns, and seen some operations in the Ospedale degli Incurabili at the former place and in the Pammatone at the latter. Italian surgeons frequently perform operations which are not often attempted in England, and use chloroform for a long time, apparently without fatal results. They do not use any mixture with ether or spirit, and only employ a small wire inhaler covered with flannel (masque d'Esmarch), which appears to answer best of all. Junker's appararus they reject entirely. Among other operations which I saw was complete excision of the great toe without any anæsthetic except only the compression of the limb, stopping the circulation by Esmarch's india-rubber bandage, fastened by hooking after a couple of turns round the limb. The patient appeared to feel nothing. No "Listerism," but only gauze impregnated with ten per cent. of iodoform used as subsequent dressing. Cocaine injections of four per cent. (amount one or two centigrammes of solution) were used in one case. One deep abscess of the neck was opened in the mastoid region behind the insertion of the sternocleido-mastoid, with immediate relief of breathing and of the pressure on the œsophagus. When empty the surgeon (Professor Ceci) was able to feel the internal carotid artery through the walls of the abscess; no anæsthetic was used in this case. I was informed that one of the surgeons in the hospital at Naples had excised a tumor (presumably lymphadenoma) necessitating removal of portions of one carotid artery, one jugular vein, and one vagus nerve, and that the patient lived about two months after this.

Ohio Doctors Insulted.—The Ohio Legislature has rejected the bill providing for regulating the practice of medicine in Ohio. We are told by the *Lancet-Clinic* that in rejecting it speeches and remarks insulting to the medical profession of Ohio were made. The *Lancet-Clinic* is most indignant and urges the physicians of Ohio to fight harder than ever for this bill. We trust our brethren will learn the golden rule of politics, talk little, and look out for a "pull."

Reviews and Notices of Books.

TREATISE ON GYNECOLOGY, MEDICAL AND SURGICAL. By S. POZZI, M.D., Professeur Agrégé à la Faculté de Médecine; Chirurgien de l'Hôpital Lourcine-Pascal, Paris; Honorary Fellow of the American Gynecological Society. Translated from the French edition under the supervision of, and with additions by, BROOKS H. WELLS, M.D., Lecturer on Gynecology at the New York Polyclinic; Fellow of the New York Obstetrical Society, and of the New York Academy of Medicine. Vol. I. Pp. xxii., 581. With 305 Wood Engravings and 6 Full-page Plates in Color. New York: William Wood & Co. 1891.

WE are glad to welcome an American edition of this admirable work, the appearance of which in French, a little over a year ago, elicited universal approval. The present volume is not merely a smooth and accurate translation, but is essentially a revision of the original work, with such modifications and additions as render it particularly adapted to the needs of English readers. Dr. Wells has accomplished his work so thoroughly that he can have the satisfaction of feeling that he has improved on the original, and that is saying a great deal. A comparison of the French and American editions shows how superior the illustrations, typography, in fact the *tout ensemble* of the latter are to the former. The editor has shown excellent judgment in the omission of useless cuts such as would only confuse the general reader, by reason of their unfamiliar appearance, and the substitution of others which are more intelligible. The six colored lithographs (two of which represent the gynecological operating-room of the Johns Hopkins Hospital) form an attractive addition. The colored cuts, representing section of the normal and diseased endometrium, have been beautifully reproduced (Figs. 90 to 93, 100, 105, and 111). References to literature have been placed at the end of each chapter instead of at the bottom of each page, as in the original, which is more convenient for reference. The translator's comments are enclosed in brackets. The most important, with which we are heartily in accord, is in regard to the value of trachelorrhaphy, an operation which (like all foreign writers) the author both judges and describes superficially, believing that "it has no advantages."

Although we have already reviewed at length the French edition, believing that the translation should be in the library of every intelligent practitioner, as well as gynecologist, we would briefly call attention again to certain unique features of the work, which render it *facile princeps* among treatises on diseases of women. In this progressive age what the reader first demands of a new book is that it shall be fully abreast of the times; next, that the writer display evidence not merely of exhaustive research and judicious compilation, but the power of condensing information within the smallest possible compass.

A clear, forcible style, intelligible cuts, which really illustrate the conditions described in the text—these are all important. It was at once evident, on the appearance of Pozzi's work, that the talented author had exactly hit the popular need for a work on gynecology which should leave the beaten track and represent the broad, cosmopolitan spirit of modern medicine. The instant and universal popularity of the book stamped it as the product of a master, even if it had not stood the test of exacting criticism. Everything about it is modern. One breathes a sigh of relief as he misses the ancient illustrations, the out-worn theories of a former generation. The surgeon recognizes the most approved instruments and technique, operations being described better than they were by those who devised them; the pathologist the results of the most recent investigations in his department. The descriptions of operations are so lucid and so admirably illustrated, that even the tyro can grasp the essential points, a rare commendation for a surgical work.

The present volume contains twenty-two chapters, the first four, which are introductory, dealing with the subjects of antisepsis, anæsthesia, sutures, and gynecological examination. Metritis (a term which the acute author recognizes as an unfortunate one, though, like a true Frenchman, he will not abandon it) includes three chapters; uterine fibroids, six; the surgical side of the latter is most prominent. Cancer of the uterus is discussed in three chapters, with full descriptions of the different operations, radical and palliative. Four chapters are devoted to displacements of the uterus, Chapter XVIII. being the most exhaustive review of the different methods of ventro-fixation that has yet appeared. The author's tendency being strongly surgical, the non-operative treatment of displacements receives less attention than usual. The sections on pessaries are supplemented by occasional judicious comments by the editor, which serve to render them more intelligible to American readers. A chapter on inversion and a closing chapter on the disorders of menstruation complete the volume. As we have before stated, the translation is a careful and scholarly one, faithfully preserving the terse, vigorous style of the original. Prolixity, the glaring fault of most French writers in every department of literature, is conspicuously absent—one of the principal reasons, in our opinion, why the author has been so much more successful than his *confrères* in winning for his book the careful consideration of busy workers. We cannot see how one who desires to be *au fait* with modern gynecological surgery can afford to be without Pozzi's treatise, since it is not only the most modern and exhaustive monograph on the subject, but it will be several years before it is displaced by a better one.

PRACTICAL MIDWIFERY. A Handbook of Treatment. By EDWARD REYNOLDS, M.D., Fellow of the American Gynecological Society, of the Obstetrical Society of Boston, etc.; Assistant in Obstetrics in Harvard University; Physician to Out patients of the Boston Lying-in Hospital, etc, etc. With one hundred and twenty-one Illustrations. Pp. xiv., 421. New York: William Wood & Co. 1892.

ALTHOUGH it must seem as if a manual of obstetrics must be mainly a compilation from larger works, such is by no means the case with this excellent little handbook, which really supplies a vacancy in the literature of the subject. In the modest preface the author states that his aim is to instruct students and inexperienced practitioners how to manage a case of labor under every possible condition, by furnishing all those minor details which are omitted in the larger text-books. He has been eminently successful, as every teacher of obstetrics will acknowledge on noting the careful and conscientious manner in which every point has been elaborated. Dr. Reynolds is not a mere compiler; every page of his book represents the result of personal experience at the bedside. It is divided into six parts (twenty-eight chapters), treating of pregnancy, normal labor, obstetric surgery, abnormal labor, the pathology of labor, and the puerperium. Under the head of pregnancy we note as especially good the sections on ectopic gestation and abortion. Chapter VI. contains unusually clear rules for diagnosing the presentation, and Chapter VIII., on normal labor, will be invaluable to the tyro, as well as the chapter on delayed labor which immediately follows it.

Of Part III., on obstetric surgery, we need only say that no previous writer has ever been more successful in condensing so much practical information within such a short space. Clearness is not sacrificed to conciseness, but every operation is described in detail, so as to be understood by one who has never seen it performed.

Chapter XV. contains the first satisfactory rules for the management of posterior positions that we have seen in an English work. The text-books used in our schools are

utterly valueless in this respect, since they treat this important subject very superficially, entirely undervaluing its importance. Breech-presentations receive careful attention. Chapter XIX., on hemorrhages, the sections on lacerations of the parturient canal, and on the resuscitation of the new-born deserve especial commendation. Under Part VI., we note particularly the chapters on diseases of the breasts and on septicæmia. It is impossible to do justice to this admirable little book in a hasty review. It clearly contains the true elements of success—clearness, conciseness, and a constant recognition of the needs of the reader. We predict for it a favorable reception and wide spread popularity. The typography, binding, and illustrations are worthy of the well known publishers whose names appear on the title-page.

Physical Diagnosis: A Guide to Methods of Clinical Investigation. By G. A. Gibson, M.D., D.Sc., F.R.C.P. Edin., and William Russell, M.D., F.R.C.P. Edin. With 101 Illustrations. New York: D. Appleton & Co. 1891.

A concise and very practical work on the methods of diagnosis. It is admirably adapted for students and beginners in medicine. The illustrations are well executed and very profuse, considering the size of the book.

Diseases of the Skin. A Manual for Practitioners and Students. By W. Allan Jamieson, M.D., F R.C.P.Ed., Extra Physician for Diseases of the Skin, Edinburgh Royal Infirmary; Consulting Physician, Edinburgh City Hospital; Lecturer on Diseases of the Skin, School of Medicine, Edinburgh. Third Edition, revised and enlarged, with Woodcut and Nine Colored Illustrations. Philadelphia: Lea Brothers & Co. 1892.

The first edition of this work appeared in 1888, and the following year a second. The present volume has been revised, and chapters on Dermatitis Herpetiformis, and Pityriasis Maculata have been added; while detailed descriptions of Lymph angioma circumscriptum, Pityriasis rubra pilaris, and Xanthoma diabeticorum are given; and a new chapter on Leprosy has been written. These changes, together with some additions to the therapeutical portions and other minor alterations, make the book in its present form more valuable. The scope of the work is essentially clinical, little reference being made to pathology or disputed theories. Almost every subject is followed by illustrative cases taken from the author's practice, and the reader is constantly reminded that he has before him a record of personal experience, while nothing is put forward to indicate that this experience has been unusually large. A feature of value to those having access to the large atlases, as well as for purposes of reference, is the plan adopted by the author of adding to each important chapter a list of the colored plates which illustrate the subject, together with their number and the atlas in which they are to be found. These lists are, however, not as full as one might wish, and some of the more recent productions are not referred to. Nine double-page colored plates are contained in the body of the work, but, as is so often the case, the subjects chosen for illustration are mostly instances of unusual diseases rather than the every-day affections which a student or family physician is likely to encounter. The picture of acne varioliformis conveys a rather faulty impression of the disease, as usually seen in this country and in Vienna. The illustrations of erythema multiforme and of lichen planus are very good, while that of lichen verrucosus is rather confusing. Besides a table of contents, and a complete alphabetical index, there is an author's index, containing the names of about two hundred and fifty of those to whose writings reference is made in the text, showing that, although the author has made his treatise largely one of personal experience, he has not hesitated to give the views of others, and has not neglected to give full credit for them.

The pages are filled with interest to all those occupied with skin diseases, and while the student can procure a more suitable text-book for his purpose, the general practitioner will find the book of great value in matters of diagnosis and treatment. The latter is quite up to date, and the formulæ have been selected with care. The press work is excellent.

Prescribing and Treatment in the Diseases of Infants and Children. By Philip E. Muskett, Late Surgeon to the Sydney Hospital; formerly Senior Resident Medical Officer, Sydney Hospital. Philadelphia: P. Blakiston, Son & Co. 1891.

This is a handy little work on the therapeutics of children's diseases, which ought to be of great assistance to the young practitioner, and, indeed, to him of greater years and experience as well. The book is divided into three parts: The first is devoted to a consideration of the therapeutics and dosage, for children of different ages, of all the more important drugs used in modern medical practice. The second and main part contains directions for the treatment of the various diseases of infants and children; and in the third part are given a number of recipes for making barley-water, bread-jelly, broths, whey, etc. A satisfactory index completes the work. The book ought to be a useful companion to Whitla's "Dictionary of Treatment."

The Book of Prescriptions. Containing upward of Three Thousand Prescriptions Collected from the Practice of the most Eminent Physicians and Surgeons, English and Foreign; comprising also a Compendious History of the Materia Medica, Lists of the Doses of all Officinal or Established Preparations, and an Index of Diseases and Remedies. By Henry Beasley. Seventh Edition. Philadelphia: P. Blakiston, Son & Co. 1892.

Those already acquainted with "Beasley's Three Thousand Prescriptions" need only be told that in this edition the editor has made a thorough revision of the work, throwing aside the obsolete remedies and substituting for them those of the present time, changing also the nomenclature of the drugs in order to accord with modern usage. One who is not already familiar with the work may learn what it is from the title. We need only add that the book is gotten out in very convenient form, in moderately small but very clear type, on thin paper, so that notwithstanding the vast amount of matter which it contains, it can be easily carried in the coat pocket and studied while the reader is going from one call to the other.

The Hydriatic Treatment of Typhoid Fever, According to Brand, Tripier and Bouveret, and Vogl. By Chr. Sihler, M.D., Ph.D. Cleveland, O.

A brief *résumé* of the application of water, principally cold, to lower the temperature. It is well written, and the treatment will no doubt, in time, meet with universal favor.

The Principles of Bacteriology: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D. Philadelphia: Lea Brothers. 1892.

The book has no doubt been based on the course taken at the Hygienic Institute in Berlin. It is suitable for practical (elementary) work in bacteriology. It is carefully written and illustrated.

A Mean Sponge.—A wealthy Californian has recently been sued for the maintenance of his insane wife for fifteen years. He had placed her in an asylum and then disappeared. When found, he claimed that the asylum authorities can make him pay only for a short period, the rest of the debt being outlawed. He is reported to be worth over half a million dollars.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 4, 1892.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Discussion on the Treatment of Typhoid Fever.—The following discussion upon the treatment of typhoid fever, especially by the Brandt method, took place at this meeting and the two previous ones.

DR. J. WEST ROOSEVELT, in opening the discussion at the January meeting, said his remarks were intended to be only suggestive. In considering the advisability of resorting to a particular course of treatment, such as that of Brandt, the question arose, What were the symptoms which indicated danger? These might be divided into two groups: 1. Those suggesting more remote danger; 2, those suggesting immediate danger. Closely connected with the first was the question, What symptoms, if relieved, would lessen the danger to life? For example, did high temperature constitute a danger to life—one which, if it were relieved, would remove a danger to life? A further question related to the value of various forms of antipyretic treatment.

As to symptoms indicating danger, he regarded those connected with the temperature and the pulse as more or less distinct from those connected with the gastro-intestinal tract and with the nervous system. He would limit his remarks chiefly to those symptoms indicating danger connected with the temperature and heart-action.

There was no question, he thought, but what a patient might be killed by the temperature, if this reached a certain height, but the point to be determined was whether the temperature in a given case was injuring the patient, and whether lowering it would remove that danger. As to weakened heart-action, he thought it could be stated that the patient would be improved by relieving this, whether it depended upon high temperature or something else.

Dr. Roosevelt said he had not much to offer with regard to the so-called modern method of treating fever, the bath. Dr. Peabody, he said, had quoted the statistics of Brandt in support of that method in the treatment of typhoid fever, but there was a point which he thought should be inquired into if it had not already received consideration. He referred to the fact that in two army corps, of the same number of men, the cases of typhoid fever said to exist in the one where the Brandt treatment was carried out exceeded those existing in the other by double, and the mortality was only half as great, or four per cent. against eight per cent. Were not cases diagnosticated as typhoid fever in the one instance and not in the other?

But statistics might be made very delusive. For instance, out of 113 cases of typhoid fever treated in Roosevelt Hospital one could say there had been no deaths at all if he were to exclude such as Brandt had excluded from his statistics. In other words, out of 113 cases which entered the hospital before the fifth day not one died. But this signified nothing as to the value of the treatment, for the cases were treated in all sorts of ways. It was a mere coincidence that the mortality proved so low. In estimating the value of statistics it should be remembered also that no man had to treat an average. If, on the average, out of 1,000 cases 999 recovered and 1 died, the physician could not say, after having lost one case before reaching the thousand, that the next one and all the succeeding ones up to 1,000 would recover. He might lose several in succession. Figures, or statistics, varied greatly.

Observations in Bellevue Hospital.—DR. C. L. DANA said he could not quite agree with Dr. Roosevelt in his attitude toward figures; while statistics could be manipulated so as to show almost anything, yet they could also be used so as to throw a great deal of light upon a given question. Indeed the use of figures sometimes constituted the only way in which we could arrive at exact or approximate conclusions. The only objection to them was that they were sometimes handled wrongly, and might be collected in too desultory or careless a manner. If one had treated a thousand cases of a given disease with a mortality of only five per cent., and somebody else had treated, under like circumstances, another thousand cases by a different method and had lost twenty per cent., he thought one would be justified in drawing some conclusions from those figures.

In looking over the statistics of typhoid fever at Bellevue Hospital he had been impressed with the fact that during the last few years the mortality rate had been gradually diminishing. In 1890 the number of cases had been 18, with a mortality of 3; in 1891 14 cases, no deaths. When he was interne in the same hospital, in 1877–78, the mortality was thirty to forty per cent. The question arose whether this change was due to the nursing, the medical treatment, or the character of the fever. While he had not been able to get enough figures to throw a great deal of light on this question, yet through the kindness of Dr. Ewing, of the Health Department, he had received the yearly statistics of cases of typhoid fever reported to the Health Department, with the number of deaths since 1886. The number of deaths in 1886 had been 433; number of cases the last half of the year, 712; deaths in 1887, 421, cases, 1,004; deaths in 1888, 364, cases, 1,108; deaths in 1889, 391, cases, 1,414; deaths in 1890, 352, cases, 1,100; cases in 1891 to October 1st, 816.

It would seem, therefore, that the mortality rate from typhoid fever in the city had been steadily decreasing since 1886, whereas the number of cases had not decreased absolutely, yet it had decreased relatively to the population.

Referring again to the cases occurring in Bellevue Hospital the past year, he said a curious feature of the disease was that while in no case had it proved fatal, yet as a rule it had run a much longer course than formerly. Moreover, nearly one-third of the cases had shown a relapse.

Regarding treatment, during the three or four years prior to 1890 the tendency was pretty general to use antipyretics and stimulants. This was the practice a part of 1890 also, during which time three patients died, all of whom had received antipyretic drugs. The later cases had been treated by stimulants, baths, and intestinal antisepsis. Perhaps the sponge-baths and wet-packs had been the most characteristic features of the treatment. There had been practically no "tubbing." None of these cases had died.

In conclusion, he said that the record of the past year having showed such good results in the treatment of typhoid fever, although tubs were not used at all, led him to think that others may have been in error in attributing special therapeutic value to tubs where these had been employed. The milder character of the disease, the discontinuance of antipyretic drugs, the use of the wet packs, sponging, and stimulants, including strychnia, and careful nursing would account for the diminished mortality.

Dr. Dana expressed his obligations to Dr. Hardenburg, one of the internes at Bellevue, for collecting and preparing the statistics.

DR. F. P. KINNICUTT thought that, owing to the varying intensity of typhoid fever during different periods, it was difficult to judge of the value of a given method of treatment by the general mortality rate of that period. He did believe, however, that we could judge of the effect of a specified method of treatment upon the general course of the disease, upon the symptoms, and upon the comfort of the patient. According to his own observation it had seemed that what had been called the Brandt method had produced beneficial influence upon the symptoms in general, and had greatly enhanced the comfort of the patient.

He had been impressed with its good effects upon the nutrition. Under this treatment digestion had remained normal throughout the entire course of the disease. The tongue had remained clean, and the movements had continued normal over and over again under the cold-water treatment, but, according to his observation, had seldom done so under any other method. He had also seen it bring about greater improvement in the mental condition than he had ever seen under any other treatment. It had also had a good effect upon the heart, and upon the general comfort of the patient. Those were facts which the doctor could judge of for himself in any given case, and he need not refer to statistics for proof of them.

Regarding modern antipyretics, he had for some time been convinced of their harm. His treatment was careful nursing, careful diet, and the cold bath in cases of more than moderate severity.

Typhoid Fever in St. Luke's Hospital.—Dr. Beverley Robinson said that some seemed to have advocated the cold bath as a treatment for *all* cases of typhoid fever. He thought this was an error. While it had a place, yet it had seemed to him a brutal treatment when applied as a matter of routine in all classes of cases and to all persons. He would not like to enforce a rule of this kind without regard to person or circumstance when he would not allow it to be applied to himself. Two years ago he was told by an able physician that he had typhoid fever. A request which he then made was that he should not be put into the cold tub.

Some months ago he had read a report of the treatment of typhoid fever by ———, of Paris, whose method consisted simply in urging the patients to drink large amounts of water, even to six or seven litres in the twenty-four hours. His results had been remarkably good. Being impressed with the reasonableness of the theory on which the method was based, namely, that it was through the kidneys as much as by any other means that the poison was eliminated, he continued to study the subject. He had found that about eleven years ago Meigs, of Philadelphia, had written very ably upon thirst as related to febrile affections. Other authorities had also written on the subject. It seemed to him that in the use of water internally we had a common-sense method, a rational method of treating typhoid fever.

The three chief theories which had been offered in explanation of the benefit derived from the cold bath were, 1, Lowering of the temperature; 2, influence on the disturbed nervous system; 3 (and this was the theory accepted by ——— and others), promotion of diuresis. The effect of increasing the urinary secretion was to lower the temperature and to aid in the elimination of waste tissue and the poison of the disease. But to take water internally would promote diuresis with just as great certainty.

The following statement of the treatment of typhoid fever at St. Luke's had been drawn up by Dr. L. F. Bishop, House Physician:

Following the recommendation of Dr. Beverley Robinson, all the patients have been urged to drink as much water as possible. The amounts taken have varied a good deal. The men took more than the women, and with less objection. The exact amounts taken are not recorded in very many cases, but the nurses have, as a rule, been faithful in urging the patients to take the water. It has seemed that this method of drinking abundantly of water has favored the well-being of the patients, and that there has been less nephritis and fewer cases of retention of the urine among them than is usual. The urine of these patients to whom water has been generously given has been noticeably large in amount. This fact has been most remarkable in the earlier days of the disease, because an increase in bulk of the urinary secretion during the latter weeks of a typhoid case is to be expected under almost any method of treatment.

Water has been given to typhoid-fever patients, in addition to seventy ounces of milk during twenty-four hours, to the amount of fifty ounces daily in some cases among the women (at least three in number), without occasioning dyspeptic symptoms or abdominal distention, or discomfort in any appreciable degree, so well as I can remember. The specific gravity of the urine decreased during the period of taking the water in large quantity in a ratio proportionate in amount with the fluid drunk.

In three cases the chlorine mixture of Dr. Burney Yeo, of London, was given. Of these one case died of perforation of the bowel, and two recovered. In the two latter cases the course of the disease was moderate in type.

In severe cases of typhoid fever the belief of the resident staff of St. Luke's is that cold baths diminish mortality. The sentiment among them is that in those cases where this treatment is not called for by the obvious gravity of the disease, and especially by high range of temperature, it prolongs unduly the duration of the disease, in this sense at least, that the subsequent prostration is more marked and recovered from very slowly.

My house physician states that cold baths were given with judgment. In those cases, usually mild ones, where cold tubbing was not systematically carried out, all got well, thus showing the reasonable basis of the conviction entertained, viz., that this method should only be employed under suitable conditions. In severe cases, as they seemed to be on admission to the wards, cold baths were promptly employed and some of the patients thus treated died.

The following are the causes of death: In one case the general severity of the disease. In two cases, owing to neglect or ignorance before admission (and in these instances although the tubbing was begun it had to be interrupted on account of the lowered vitality of the patients). In three cases, perforation of the bowel. All three of the latter were tubbed systematically. All three were exceptionally severe cases of disease. No deaths occurred from intestinal hemorrhage. No severe hemorrhage from the bowels took place. Small hemorrhages from the bowels were noted occasionally. These hemorrhages were a sufficient reason to intermit the tubbing for a while. It is not proven, however, that cold tubbing promotes intestinal hemorrhage, or if the latter unfortunately occurs, that it would be increased necessarily by continuance of the cold baths. Indeed it is thought that hereafter it may be wisdom to keep up the cold baths in very severe cases where they are being used, despite the hemorrhagic complication. In other words, it is not proven that under these circumstances the cold baths are necessarily injurious.

Granules of digitaline, one milligramme in each, and granules of arseniate of strychnine, half a milligramme in each granule, have been given, one of either kind every hour when the patient's condition has seemed to be critical, as manifested by a rapid and feeble pulse. This treatment has been kept up during several days on many occasions, without apparent harm to the patient, but, on the contrary, with obvious beneficial effects. Whenever death from cardiac exhaustion has seemed imminent, one of the granules of digitaline and one of strychnine were given every fifteen minutes. On more than one occasion the latter doses were given when the pulse-rate ranged from 150 to 170 per minute, and this treatment was continued until a reduction of twenty beats per minute took place. To accomplish this result the doses were sometimes repeated as often as every fifteen minutes during a period of several hours, *i.e.* (four to five hours). Afterward, the pulse had become slower and improved in quality, and the general condition of the patient seemed to be better. When the condition of the patient had improved the granules were of course given much less frequently. These granules (Chauteaud's) may be given dry on the tongue, and are swallowed by the patients without awakening them every time a dose of medicine is given.

Dr. Andrew H. Smith thought that to induce a patient with typhoid fever to drink much water was rational;

that it had the effect of reducing the temperature, of increasing the liquidity of the blood, of increasing the urinary secretion, of increasing the elimination of toxic and waste products in the body. He thought the physician should urge the patient to take plenty of water in addition to milk used as food, even though it might also prove necessary to resort to the Brandt treatment.

Further Endorsement of the Brandt Treatment.—DR. W. GILMAN THOMPSON had employed the Brandt method in forty eight cases of typhoid fever, and believed that, all things considered, it offered decided advantages over any other method with which he had had experience in hospital practice. The forty-eight cases had been treated during the past two summers in the New York Hospital, and the method of bathing employed had been essentially that of Brandt. Last summer he had used the water at a temperature of 70° instead of 75° F., leaving the patients in fifteen minutes. After removing them from the bath they were vigorously rubbed and given a warm drink. If necessary hot water was also applied. Out of the whole number there had been no accident or casualty attributable to the bathing. In only two instances did the bathing have to be discontinued because of the discomfort to the patient. Both of these were men who were very neurotic and complained against anything being done systematically. In one or two other instances the bathing was discontinued because of complications. Three of the forty-eight patients died. One died of pneumonia after having had seven baths. As soon as the pneumonia was detected the baths were discontinued. He did not think the pneumonia could be attributed to the baths. He was aware that some physicians did not cease the baths on account of complicating pneumonia. In one of the three fatal cases there was bronchitis, and in another hemorrhage. He did not think the bathing was responsible for the unfavorable result in any of the three.

The beneficial results were very marked in many instances. Especially in those which were brought in late, say about the tenth day, being in a dull, lethargic state. Where baths were employed patients were less likely to have delirium, they had a better expression, their general condition seemed to be improved. Some got used to the baths and liked them, while with a good many it was more or less of a struggle to keep up the bathing. Speaking further of the effects, he said the digestive functions were better, the urine was abundant, there was notable absence of toxic symptoms. Indeed he could hardly recall a case in which there was the typically typhoid condition—low delirium, brown tongue, etc. This had also been remarked by a number of his friends who had observed the cases. While often the temperature fell several degrees, yet in some it might not fall more than half a degree or a degree, yet the benefit would seem just as great. In other words, benefit seemed to be derived irrespective of reduction of the temperature. It was due, Dr. Thompson thought, to the tonic influence upon the nervous system. He had not found the duration of the disease shortened. It had been about the average. Nor had he found the treatment prevent relapses, there having been eight relapses among the forty-eight cases. The complications, however, had not been so numerous nor so severe; nor had sequelæ been so frequent as after other methods of treatment.

Typhoid Fever in New York Hospital the Past Six Months.—THE PRESIDENT emphasized the importance of the statement made by Dr. Thompson, that the reduction of the temperature by the baths was not a measure of the benefit derived. He had repeatedly seen great benefit follow the bath in spite of the fact that the temperature was not brought below 105°, 106°, or 108° F. It was his custom to give the baths at 65° F., leaving the patients in for ten minutes He warned the beginner with this method not to think that because the temperature did not fall more than a fraction of a degree that therefore harm was being done and that it should be discontinued.

He did not stop the baths because of the existence of pneumonia. On the contrary, he had more than once used the baths through pneumonia complicating typhoid fever.

Dr. Peabody felt quite sure that, as Brandt himself had said, if we made it a custom to bathe patients early in typhoid fever we would bathe a good many persons who had not typhoid fever at all. It was important, therefore, to know whether in bathing a patient having a disease which was likely to be mistaken for typhoid fever we would do harm. As already stated, he had found pneumonia no contra-indication, and he thought that ordinary tuberculosis or meningitis would not be. He presented the following: Total number of cases of typhoid fever treated in New York Hospital for six months ending January 1, 1892, 57; total number of deaths, 7; of relapses, 11; of spleen palpated, 25; eruption present in 40, absent in 17; tympanites marked in 5, absent in 31; epistaxis occurred in 13, absent in 44; intestinal hemorrhage occurred in 10, of which were bathed 4; hemorrhage caused death in 4 (all bathed); lobar pneumonia with hemorrhage caused death in one person, who was not bathed. One patient who had been bathed died of hemorrhage, lobar pneumonia, and perforation. One death occurred from perforation alone in a patient who had been bathed.

Of the total number treated—namely, 57—were bathed 42. Of these 42 there died 4. These 42 cases were bathed throughout the course of the disease.

The use of a long, soft stomach-tube to remove gas in cases of bad tympanites proved of great value. It was passed into the rectum and thence into sigmoid flexure, and, he believed, often into ascending colon. Large quantities of flatus were thus often discharged, to the great relief of the patient. In one patient this procedure was resorted to every three hours for several days at a time.

Typhoid Fever in the Presbyterian Hospital.—DR. ANDREW H. SMITH said he had looked over the records of over one hundred cases of typhoid fever treated at the Presbyterian Hospital since 1882. This was not the entire number, for Dr. Thompson had just informed him that he had found records of 250 cases between 1882–90. Generally when the temperature had gone high the patient received the sponge-bath, not the tub-bath. More recently, especially in his own service, they had used the ice-coil over the abdomen a good deal as a convenient method of reducing the temperature. Antipyretic drugs had been used some, but only when the temperature ran high.

What seemed to him an objection in carrying out one particular line of treatment was the tendency which it begot to overlook differences between different cases. There were peculiarities pertaining to individual cases which should be taken into consideration in treatment.

It had seemed to him that the hospital interne usually became imbued with the idea that the more nutriment a typhoid patient took the better. If a typhoid patient had a furred tongue, frequent stools, a distended abdomen, the question should at once suggest itself whether he was being fed properly. Such symptoms could often be corrected by simply correcting the diet, and not giving the patient more than he could appropriate.

In the Presbyterian Hospital they had made considerable use of intestinal antisepsis, with, he thought, advantage. The mortality, including all cases, had been about fifteen per cent., and it must be admitted that they had received some very bad cases.

He thought the Brandt method elsewhere had been applied in more or less select cases, and that fact should not be overlooked in considering statistics. For instance, if a typhoid patient should have acute nephritis it was not likely he would be subjected to tub-bathing. So with cardiac trouble, etc. Yet this class of cases had not been excluded from the mortality rates following other methods of treatment in the Presbyterian Hospital. He inquired

what had been the mortality in hospitals in this country and in Europe where any routine method of treatment had been pursued.

Statistics of Mortality from Typhoid Fever.—Dr. W. G. Thompson said that during the War of the Rebellion there were statistics of 74,000 cases of typhoid fever; deaths, 35.6 per cent. Jaccoud had collected 80,000 cases, largely French; deaths, nineteen per cent. Murcheson, 27,000 cases; deaths, 17.5 per cent. Out of 17,000 cases collected in Vienna, the last few years, exclusive of those treated by cold baths, the deaths had been 22.5 per cent. In the Pennsylvania Hospital, for twenty years before the introduction of the Brandt method, the deaths had been 19.2 per cent. Brandt had collected 19 000 cases treated by all kinds of baths; deaths, 7.8 per cent. At the Presbyterian Hospital there had been, between 1882 and 1890, 250 cases, treated by various methods; deaths, 16.1 per cent. At the New York Hospital out of 501 cases treated between 1877 and 1889 the deaths had been 19.4 per cent. That was before the introduction of the tub bath. In 160 cases given by Wilson, treated by the Brandt method, the deaths had been five per cent. Hare had given seven per cent. as the death-rate from the Brandt method.

The President thought the only drawback to the Brandt method, as a method, was its expense. It required an abundance of fresh water, sometimes ice, and at least four able bodied men to apply it, two for day service and two for night service. At the New York Hospital one of the internes had devised what had been called the bed bath, which was the best modification of the tub-bath which he had seen. A rubber sheet was put under the patient, and the depression was filled with water which was kept cold with ice. This was much superior to cold sponging. He had also used the cold coil, and, while it was serviceable, it could not replace the tub. The latter was the most efficient method in reducing the temperature and in stimulating the nervous system. Replying to Dr. Smith's question, what objection was there to the Kibbe cot, he said the shock from pouring on water was much greater, and was frequently repeated as compared with the tub-bath.

Some Suggestions in the Management of Lung Fever.—Dr. Henry F. Walker read the paper (see p. 402).

Dr. Beverley Robinson thought it was a question whether the term lung fever was more appropriate than those already in use, pneumonia or pneumonitis. At present he would be sorry to have the public get the idea that pneumonia was likely to give the affectionate attendant the same disease. He thought it was highly improbable. He mentioned as a fact, for which he had no definite explanation, that when on visiting hospital wards for pneumonia he saw an unusual number of cases of that disease he felt worse for it, and in reply to his wife's inquiry what was the matter, he answered that he had, he supposed, seen a little more pneumonia than he should. The impression on his mind was that he had imbibed too much of the poison of pneumonia, although he had not acquired the disease.

He said that cases of pneumonia which had followed the grip had done better when he had given what seemed to be an internal antiseptic. The agent which he had chosen was a creosote mixture. He also used this sometimes by inhalation.

He thought some precautions against possible contagion of pneumonia might be taken without letting the family know the exact object, and thus avoid giving rise to undue excitement. Steam containing some antiseptic might be generated in the room. While it might be wise to take some such precautions, he must say that he saw no reason for regarding pneumonia as more contagious or infectious than any catarrhal affection of the respiratory tract. It called for greater precautions simply because it was a severer disease. When a simple cold affected one member of a family the entire family was likely to become affected. Dr. Robinson thought that while some of his remarks might not sound very scientific, yet we would have to regulate our conduct somewhat according to the people's view of common sense, if we would not get into a position which it would be difficult to maintain.

Dr. W. G. Thompson was quite in accord with what Dr. Walker had said with regard to the infectious nature of pneumonia, but more particularly in cases associated with grip. Last spring after the fire had occurred in the Presbyterian Hospital they were compelled to crowd the wards, and medical and surgical cases were put into the same room. During this time a number of cases of pneumonia were admitted on the medical side, and the disease was then acquired by patients on the surgical side who had been in the hospital for some time. Altogether there were ten or twelve cases of pneumonia which originated in the hospital among patients who had come in for some other trouble. They were obliged to clear the ward and disinfect it thoroughly, whereupon the trouble ceased.

Dr. Ewart, of London, expressed his interest in the subject, but said that personally he had never come across an epidemic of pneumonia nor met with an instance of known contagion or infection. On reading over the observations of other men it was hardly possible not to believe in the facts stated. It had seemed to him that the cases of pneumonia occurring in connection with epidemic influenza had been nearly altogether of the lobular type, and he thought light might be thrown on the question of the contagiousness of pneumonia by observing the form present when the disease existed in connection with epidemics.

The Same Rules Apply in Pneumonia as in Phthisis.—Dr. A. H. Smith thought the same rules applied with regard to infectiousness in pneumonia as in phthisis. In lobar pneumonia we had a specific disease, one due to a specific microbe, and the question of contagiousness was a question of the transplantation of that microbe from one individual to another. It might be possible for the transference to take place immediately by passage of the microbe from the sick to the well through the air, but more likely it usually took place, as in phthisis, by dried sputa floating in the air. The danger was less where but one patient was sick and was confined to a single room. It was much greater in an hospital where there were constantly many patients.

He thought Dr. Robinson had suggested that one could get a little, but not necessarily the whole disease. This view was hardly tenable. A man either had pneumonia or he had none. Nothing annoyed him more than to hear that So-and-So was threatened with pneumonia. He thought it would be as well to say that he was threatened with small pox or scarlet fever. Pneumonia was a positive thing; it was there or it was not there. He did not believe that a patient was ever rescued from an impending attack of pneumonia by anything that had been done for it.

Dr. Robinson said he did not wish to dispute the point raised by Dr. Smith, but he wished to say most decidedly that one might feel the impression of the atmosphere which he breathed. The feeling was not the same, for instance, in a ward where there was much pneumonia or diphtheria as in one free from sick people.

Dr. Smith added that for eight months of his service at the Presbyterian Hospital, in 1889, twenty-one patients were admitted with pneumonia, only three of whom died. One was nearly moribund when admitted.

Pneumococcus in the Dust.—Dr. H. M. Biggs recalled bacteriological studies of a German made three or four years ago which revealed pneumococci in the sputa and dust upon the floor in hospital wards.

We Don't Know it All.—Dr. Robinson thought that we did not yet know all about the etiology of pneumonia and other diseases called infectious. At one time he was exposed in the course of his studies to diphtheria, was in bad health, and in what one might suppose to be

the best condition for acquiring the disease, whereas on another occasion, when in good health and there was no reason why he should be susceptible, he did contract it. With regard to pneumonia, he would defy even the best microscopist to state positively what was its cause. He would also defy the best diagnostician, in many instances, to say whether what existed was a bronchitis or a pneumonia, a lobar pneumonia or a lobular pneumonia. In view of changing opinions on medical and surgical subjects the last few years, he thought it was unsafe with our limited knowledge of the subject to declare positively that a patient either had pneumonia or had not.

THE PRESIDENT expressed belief in the infectious nature of so called lobar or croupous pneumonia. A number of instances had come under his personal observation pointing to infection. For instance, a member of a family would acquire pneumonia, the only time the disease had been in the house for a generation, and within a week or ten days another member became affected. The late Dr. M—— died of pneumonia, and within a week Mrs. M—— took the disease and also died. In a German village pneumonia had not existed for a winter; then it appeared in a house of five or six persons, most of whom died of it. Regarding the pneumococcus, he agreed with Dr. Robinson that at present we knew less about it than we supposed we did a short time ago. He did not doubt, however, that pneumonia was a specific disease which was likely to spread, but which was less likely to spread than some other infectious diseases. He had not seen it spread to hospital attendants, nor in definite wards.

DR. WALKER remarked, in closing the discussion, that he was perfectly willing to admit that a cold in a family was likely to spread; that it was contagious to a certain degree, but one might not be willing to alarm a family about that when he would risk creating some alarm in order to prevent the spread of so fatal a disease as was pneumonia. He thought measures could be adopted for the protection of others in the house without causing undue alarm.

Cure of the Cocaine Habit.—DR. ROBERT ABBE related a case of pure cocaine habit in a young man who was able to throw it off by sheer will-force. When twenty-three years of age he was member of a church choir, and once when he contracted a cold his teacher advised him to use a little cocaine for its relief. It so improved his voice that he continued to use it. Being a draftsman, he also used it to enable him to sit up at night while drawing. At last he was snuffing into the nose two ounces a day of a four-per-cent. solution. Under the influence of the drug he could sit for hours at drawing or walk miles without fatigue. After a time he became morose, lost flesh, spent all the money he had for the drug, and got more on trust. After a year and a half his family induced him to see Dr. Abbe, who advised him to make a supreme effort to rid himself of the habit. He went on a farm, engaged in the hardest labor from early till late, regained his health, and lost all desire for cocaine, the use of which he had discontinued all at once.

THE PRESIDENT remarked that it had been denied that the cocaine habit ever existed alone. Usually it was associated with the morphine habit.

DR. ABBE said this young man had never used morphine nor stimulants. He smoked.

THE PRESIDENT said that a few years ago he had seen a case of combined cocaine and morphine habit in a physician in whom it had caused a marked hallucination. For months he feared that burglars would enter the house, and he barricaded the doors with furniture, etc. He also thought that the cocaine was coming out in crystals on his skin. On other topics he talked rationally. He took the drug subcutaneously until he died from its effects.

DR. CHARLES L. DANA said that the simple cocaine habit was rare, and therefore he would mention a case similar to that of Dr. Abbe's which he saw with Dr. Fitch. A young man, aged about twenty-three, began the use of the cocaine spray at the advice of a rhinologist, continued it, and acquired a morbid habit. He increased the amount until he reached forty grains a day, which seemed to be about the maximum amount which habitués usually reached. He had no delusions or hallucinations, but became entirely irresponsible and useless. Finally he reached a state bordering on dementia, and they committed him to an asylum for the insane. It seemed that a common way of acquiring the vice was by the use of the nasal spray at the advice of a physician or other person.

Collapse Following the Use of Cocaine.—DR. SAMUEL SEXTON inquired of the members whether they had observed depressing effects from the use of cocaine about the mouth or nose. He had had considerable experience with the use of a four-to-five-per-cent. solution in the middle ear, and in a number of instances had witnessed marked collapse. The patient did not become unconscious, but was unable to sit up.

THE PRESIDENT said there was considerable in medical literature relating to sudden collapse coming on from the use of a spray of cocaine in the nose, etc., and the explanation which had been offered was that it was attributable to hysteria, or an impression on the nervous system; that it occurred too suddenly to be the result of absorption of the fluid into the circulation.

DR. SEXTON thought that in whatever way the effect was produced it was directly traceable to the drug.

DR. ROBINSON had seen patients faint away on receiving a spray of four- or five-per-cent. solution of cocaine into the nose. The effect was not one of nervousness at all. He had witnessed it at least four or five times within three or four years.

DR. DANA thought it was more likely a reflex phenomenon.

DR. A. H. SMITH had known of a death recently from the introduction of cocaine into the urethra preparatory to incising a stricture.

THE PRESIDENT said that in the case referred to by Dr. Smith twelve grains had been injected, which was a toxic dose, and perhaps sufficient time had elapsed for it to become absorbed.

DR. BIGGS said that the injection of a little cocaine into the veins of a dog would stop the heart instantly, yet ordinarily it was not easy to stop the pulsations of the heart.

DR. H F. WALKER had made a hypodermic injection of ten drops of a four-per-cent. solution of cocaine in a case of sciatica, shortly after cocaine had come into use. The patient became pulseless and death seemed imminent. Since then he had made applications to the nose in the same patient, always with the result of violent cardiac palpitation after a small amount had been used.

DR. ABBE said that surgeons regarded cocaine as less safe when used about the mouth and face than when used elsewhere. He had seen what seemed almost fatal collapse follow injections of ten or twelve drops of a two to four-per-cent. solution about the face.

A Dime Museum Wedding.—A marriage was celebrated not long ago, in a town in Alsace, between Miss Ariel Lillipuzian, three feet two inches tall, and Mr. Hedley, six feet four inches in height. The groomsmen were Mr. Hubert, who was born without arms, and signed the wedding contract with the pen between his teeth, and Captain Dallas, who rejoiced in a height of eight feet. The bridesmaids were Miss Balatra, a lady of ample proportions who turns the scale at one thousand three hundred and twenty pounds, and La Satanella, the human salamander. All the parties belonged to the side-show of a circus giving performances in the place.

A Wise Determination.—Koch has written to a Swedish physician that he will not sell nor describe his improved tuberculin until he shall have tested it in private beyond all chance of doubt.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, January 11, 1892.

WILLIAM T. BULL, M.D., CHAIRMAN.

Election of Officers.—Dr. Joseph D. Bryant was elected Chairman for the ensuing year, and Dr. W. W. Van Arsdale, Secretary.

Discussion upon Intestinal Surgery.—The discussion upon this subject took the form of presentation of specimens and patients by several members, and the reading of papers by DR. WEIR and DR. ABBE.

Resection of the Rectum.—DR. WILLY MEYER presented a man on whom he had, a year ago in October, performed resection of the rectum by Kraske's method for cancerous stricture. The result had been quite satisfactory; the man made a good recovery, had perfect control over the passages, and nearly perfect control over gas.

Epithelioma of the Sigmoid Flexure.—DR. B. F. CURTIS showed a specimen illustrating circular suture of the resected gut similar in appearance to one he had mislaid. His patient had suffered from chronic constipation of some months' duration, and he found, on operating, a circular epithelioma in the sigmoid flexure, which he exsected and joined the ends of the gut together by circular suture. The patient died within forty-eight hours, of suppression of urine and nephritis. There had been absolutely no leakage at the intestinal wound.

Resection of the Rectum for Cancer.—DR. PARKER SYMS related a case in which, over two years ago, he had performed resection of the rectum according to Allingham's method, taking away four inches, for cancer. The woman did well over a year, and at the end of two years appeared again, when there was found a large cancerous tumor which necessitated removal of the posterior wall of the vagina along with the cancerous portion of the rectum. Kraske's method, or resection of the sacrum, was resorted to on this occasion. The operation was done last March, and the patient had been well since. He remarked upon the advantages of preliminary colotomy, which was also resorted to in this instance.

Resection of the Sigmoid for Cancer.—DR. SHUNK presented a specimen and related the case of a woman, aged sixty, who had had symptoms of obstruction, evidently due to a tumor situated at about the sigmoid flexure of the colon. Her condition being low, he performed preliminary colotomy; she then improved much, and at the end of six weeks the diseased portion of gut was drawn out of the opening made for the artificial anus and cut off. This left the lower segment too short to permit of anastomosis, and consequently both ends were drawn up to the opening and stitched in. The patient did well for eight days, and then sudden and violent gastro-enteritis developed, of which she died within twenty-four hours. The autopsy showed new-growth obstruction at the pylorus and great dilatation of the stomach.

THE CHAIRMAN also presented a specimen of cancer of the sigmoid flexure which had been operated upon for obstruction, with a fatal result

Laparotomy for Fecal Fistula following a Strangulated Umbilical Hernia—Cure.—DR. WEIR presented a patient, aged fifty-four, who had had strangulation occur some three months previously in an umbilical hernia of large size and of long duration; as a result the several openings were said to have been formed from which pus and fæces came. There was, when first seen by Dr. Weir, an umbilical hernia, the size of one's fist, and on its right side where the level of the abdominal wall was reached was a single fistulous opening, the size of a large lead-pencil, through which were continually leaking fluid fæces. Several scars over the hernia marked the sites of the other fistulas. The operation consisted in opening the peritoneal cavity outside and above the fistula, and thence after locating the latter the incision half encircled on the same side the hernia. This gave a good view of the parts. The fistulous track was recognized as running into the small intestine. This was temporarily clamped near the bowel and cut away from the skin. By so doing the incision was now liberated so that the contents of the hernia, consisting of coils of matted small intestines, could be uncovered. These were carefully separated from each other and from the sac-wall, and replaced in the abdomen. In one place there had evidently been a perforation. The incision was now carried around the left side of the hernial mass and the latter skin. Some flattened-out omentum and sac removed entirely, leaving an opening some two inches in diameter. Attention was now given to the fistula. The loop of intestine containing it, which had been held to one side, was now farther drawn out of the abdomen, and the remaining portion of the track cut off nearly on a level with the bowel and the entrance into the bowels exposed. The actual opening into the lumen of the gut was about one-half of an inch in diameter. The mucous membrane was freshened and sutured, and the opening finally closed by two layers of interrupted silk Lembert sutures. The umbilical opening was also closed by Macewen's heavy chromicized catgut sutures, supplemented, as the parietes were very thick and fat, by four or five silk sutures going through all the layers of the abdominal walls save the peritoneum which was closed by the ordinary catgut sutures. Recovery without reaction. Bowels moved on fifth day spontaneously. Patient sat up on the twenty-third day. One month from operation was sent to his home in the country. No disposition to recurrence of the hernia. Directed to wear a retentive bandage but not a pad.

Intestinal Anastomosis without Rings; Between the Ileum and the Sigmoid Flexure for Intestinal Obstruction; Neoplasm; in the Transverse Colon.—DR. WEIR presented the patient and read the history (see p. 399).

Gastro-Intestinal Anastomosis and Pylorectomy.—THE CHAIRMAN presented the specimen as illustrating to what extent contraction might take place in the opening made by gastro-intestinal anastomosis in the course of ten days, during which time food had passed through the opening. The opening had been made with the use of Abbe's catgut rings, three inches in length, and had contracted down in the ten days so that it would just admit the index-finger. This patient was subjected to pylorectomy, at the end of ten days, for cancer of the pylorus, but died.

Operations in a Case of Cancer of the Sigmoid Flexure.—THE CHAIRMAN presented another specimen, in contrast with the former one, as to the amount of contraction of the intestinal opening after anastomosis. The catgut rings had measured about two inches and a half inside, and at the end of two years the opening had remained sufficiently large to admit of normal function of the bowel. The case was one in which he first performed colotomy preliminary to removal of a cancerous stricture in the sigmoid flexure. Being unable to induce the artificial anus to close after two years, he performed intestinal anastomosis, and the woman lived in comfort two years longer. Then symptoms of obstruction occurred, which he supposed were due to contraction at the point of anastomosis, but laparotomy showed it to be due rather to matting of the coils of gut at this point and their displacement. At death the opening at the point of anastomosis was found still of considerable size. The case was also interesting in the fact that cancer of the sigmoid flexure had been removed five years before, and no recurrence had taken place there or elsewhere.

Several Cases of Unusual Interest in Intestinal Surgery.—DR. ROBERT ABBE read the paper (see p. 365).

DR. JOHN A. WYETH was of the opinion that all would agree with the reader that there was nothing simple about intestinal anastomosis; it was a very serious procedure. He had always expressed the opinion in discussions on the subject that terminal anastomosis was

better than lateral, and he was glad to learn that Dr. Abbe seemed of this opinion at present. The strongest objection to lateral anastomosis was that the opening would contract, and the operation was likely to prove only a temporary salvation to the patient.

Dr. B. F. Curtis was also glad to learn that Dr. Abbe had given up rings and plates, and come back to simple suture. As to a choice between lateral anastomosis and terminal anastomosis, he was of the opinion that contraction would take place in the lateral form whether rings were used or not, and therefore he at present favored circular suture, which, so far as experience up to the present had gone, showed less contraction. Circular suture was the more difficult operation, but not so much more difficult where the continuous sufure was employed, as has been done successfully of late by German surgeons. He differed from the author in the view that difference in size between the two ends of the gut made terminal anastomosis impracticable; where it existed one had only to cut one end obliquely, or slit it longitudinally in order to make the distance of suturing equal and leave no puckering.

Dr. J. D. Bryant remarked that the delays which so often occurred in connection with intestinal obstruction resulted in impairment of the tissues by over-distention, congestion, and catarrhal changes, and greatly jeopardized the success of an operation. This argued in favor of prompt action.

Dr. Weir remarked that we did not know yet but what the opening could be made so large in lateral anastomosis as to avoid any danger of undue contraction; that the results of this form of anastomosis were, so far as statistics yet went, better than those of circular union.

Dr. Kammerer had used the rings and plates four times, and had also performed anastomosis several times by ordinary sutures, and thus far he much preferred the ordinary suture. As Dr. Abbe had said, ten or fifteen minutes added to the duration of the operation ordinarily made little difference. As to resection of the rectum he had performed this operation several times, but never got complete primary union; there always occurred more or less fecal fistula at the posterior part.

Dr. Willy Meyer thought the question whether lateral anastomosis or circular suture was best, was still an open one. He briefly recited his experience with Kraske's operation in four cases of stricture of the rectum.

Dr. Dawbarn expressed decided preference for lateral anastomosis and the use of plates. The saving of ten or fifteen minutes was very important. The potato plates were, he believed, safer than the catgut, for they remained firm for several hours in warm fæces, whereas the catgut rings softened very much within an hour. It was almost impossible to introduce the ordinary suture without passing the needle entirely through the walls of the intestine. An important obstacle in the way of circular suture was the mesentery junction.

Dr. Abbe said that on the living human subject he had experienced no difficulty in introducing the sutures without danger of going into the hollow of the intestine. Five inches of raw potato was a serious objection to the plate, since one knew not how much irritation it might give rise to. He thought circular suture would probably prove better where a pathological state or difference in size between the two ends did not make it objectionable, as in the cases where he had resorted to lateral anastomosis without plates.

Mingled Faith and Patriotism.—"I don't want any castor-oil." said a sick little Boston boy, petulantly, "and I won't take it."

"Why, Horace," expostulated the mother, "don't you know that castor-oil is made from beans?"

And the little boy, whose faith in his mother is perfect, took the dose and feebly asked for more.—*Indianapolis Journal.*

Therapeutic Hints.

For Asthma:

℞. Ext. euphorbiæ piluliferæ.. ..... ℥iij.
Nitro-glycerine ..... gr. $\frac{1}{100}$
Sodii iodidi..... gr. ij.
Potas. bromidi..... gr. ij.
Tr. lobeliæ..... ℥ij.

M. Sig.: To make one dose which may be doubled or tripled and used three times a day.—*Therapeutic Gazette.*

For Uric Acid.—German physicians are using piperazin as a solvent for uric acid. Dr. J. H. Brit gives it in doses of 15 or 30 grains in water or in the following mixture:

℞. Piperazini puri..... gr. xv.
Aq. destil..... ʒ v.
Syr. aurantii cort..... ʒ v.

M. Sig.: To be used during the day.

Acute Rheumatism:

℞. Euonymin..... gr. ½
Podophyllin..... gr. ⅛
Aloin..... gr. ⅛

M. Ft. pil. no. 1. Sig.: Give night and morning as necessary.

Give alkalies till saliva is alkaline. Following is useful combination:

℞. Lithii benzoatis..... ʒ ss.
Sod. brom.,
Potas. carb.....āā ʒ ij.
Potas. acet..... ʒ jss.
Sodii phos ..... ʒ ss.
Syr. zingib.,
Aq. menth. pip.....āā ad ʒ vj.

M. Sig.: ʒ ij. to ʒ ss. in water, four to six hours after meals.

For antipyretics use antipyrine gr. x. and digitalis gr. j. combined. For analgesics use phenacetin or antipyrine, and if necessary a combination of morphine, bromide, and chloral. Give alkaline mineral waters copiously. Give tonics, the following being excellent:

℞. Tr. ferri chlor..... ʒ iv.
Tr. nuc. vom.,
Ac. phos. dil.....aa ʒ ij.
Syr. aurantii cort..... ʒ j.
Elix. calisaya.....q. s. ʒ ij.

M. Sig.: ʒ j. in water t.i.d. before meals.

If heart weakens, use following:

℞. Spts. ammon. aromat..... ʒ iij.
Ammon. carb..... ʒ j.
Tr. cardomom..... ʒ i.
Tr. nuc. vom..... ʒ iij.

M. Sig.: ʒ j. t.i.d.

For topical application use:

℞. Tr. aconit. rad.,
Tr. arnica.....āā ʒ ss.
Chloroform..... ʒ j.
Tr. saponis camph..... ʒ ij.

M. Sig.: Apply locally.

Exclude nitrogenous foods. Salicylates, baths, and massage are of doubtful value.—F. Le Roy Satterlee, M.D.

Phthisis.—Creosote is an excellent adjuvant to other remedies in the treatment of phthisis. In Bellevue Hospital, where it is extensively used, it is put up in a liquid with syr. zingib. and elix. cinchona, or in a pill with bismuth. In capsules alone it is apt to irritate the stomach. An excellent method of using it is with an inhaler, a cheap and efficient form of which is that of Dr. Beverley Robinson. For inhalation it is prescribed with chloroform and alcohol.

Diphtheria.—Professor William H. Thomson treats diphtheria with Smith's solution of bromine. Apply it to the throat, diluted, one part to eight parts of water, and give it internally, diluted, and according to age, every two or three hours.

For Tape-worm.—After a day's fast give, at 6 A.M., one ounce Epsom salts; at 9 A.M., ten grains calomel; at 9.30

A.M., six ounces decoction pomegranate; at 10 30 A.M., four ounces of same, and then look out for the worm. First trial may be unsuccessful, but very rarely the second. Decoction of pomegranate is made by adding eight ounces of fresh bark to one quart of water, boiling down to ten ounces and then straining.—W. M. CARPENTER (deceased).

Thyol Preferable to Ichthyol.—Dr. Buzzi prefers thyol to ichthyol, for the reason that it is a chemical body synthetically produced, while ichthyol is subject to variations and a mixture about which little is known. Taken internally, it does not produce a bad taste in the mouth, a disagreeable odor, nor repeated belchings as ichthyol does, and it is not so expensive as the latter. It can be given in doses of three centigrammes to a gramme three times a day. Poisonous effects have never been noted. Externally, it finds the same range of usefulness in skin diseases as does ichthyol, and can be used in the same way.—*Deutsche Med. Zeit.*, January 28, 1892.

For Chronic Eczema of the Scrotum.—Dr. Fournier recommends, as the best treatment for chronic eczema of the scrotum, that the patient wear continually an india-rubber suspensory.

Hysteria:

℞. Ol. terebinth.,
Ol. ricini ..... āā ʒ ss.
M. Sig.: In the morning once a week. Or the following:

℞. Pulv. assafœtidæ ..... ʒ ij.
P. myrrhæ ..... ʒ j.
Sodii salicylat ..... ʒ j.
M. Ft. capsules No. xxx. Sig.: One two hours after eating, and before retiring.

℞. Kal. brom ..... ʒ vj.
Spts. frumenti ..... ʒ viij.
Elix. ammonii valerian ..... ʒ xij.
M. Sig.: Take tablespoonful with the above capsules. If bowels continue constipated, use colocynth ext. co.

W. H. THOMSON.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 2, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	7
Scarlet fever	213	32
Cerebro-spinal meningitis	1	6
Measles	430	12
Diphtheria	130	35
Small-pox	2	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Relief of Eye Pain by the Hot-box.—Dr. Chisolm, writing in the *Annals of Ophthalmology and Otology* for January, 1892, says that two years since, when visited by a medical friend from Japan, his attention was called to a small flat hot-box which was said to be in universal use in that country as a pain-killer. The box was a little smaller than the hand in length, breadth, and thickness. It was slightly curved in shape as is the hand when it begins to close, so that the concavity can apply well to the rotund parts of the body. The box was made of very thin sheet copper or tin, perforated with a few small holes to allow of the admission of air. Over the top was a sliding lid fitting accurately into the groove. The metal box was covered with colored muslin. The heating power was a cartridge, resembling a large Chinese shooting-cracker. It was made of powdered charcoal firing wrapped in paper. It was about four inches long, as large in circumference as the index-finger, and would burn under slow combustion for nearly three hours. One of these charcoal packages, when lighted and closed up in the box, would burn slowly owing to the small amount of air admitted through the perforations in the metal, and would keep up a temperature about 120° F. The metal was so thin that the box had but little weight. These pain-relieving boxes are to be found in every home in Japan, and are in universal use for the relief of pain wherever located.

Hot cloths are so soothing in the relief of eye pains that Dr. Chisolm determined to experiment with this hot-box from Japan, and he says that it is now one of his most trusted agents for the relief of pain in many eye diseases, such as iritis, scleritis, corneal ulcers, and glaucoma. His method of application is as follows: After the fuse has been lighted and the box has become warm, it is enveloped in the folds of a handkerchief and secured to the head by the ends of the handkerchief. A little loose cotton applied over the closed eye fills up the socket and allows the heat to be transmitted directly to the painful organ. The handkerchief protects the face from the edges of the hot box. Once applied it needs no renewal for two or three hours. In many cases the relief of pain, the author says, is magical. In old persons he has avoided the necessity of removing painful eyes lost by glaucoma by the use of this hot-box; in some cases in which, previous to its application, the disease had resisted both iridectomy and medication, local and general. The Japanese hot-boxes and cartridges can be found at all Japanese stores, and are also kept by many druggists. Dr. Chisolm says that they commend themselves for their convenience, simplicity, economy, cleanliness, and efficiency as an application for the relief of pain, and finds in them the most valuable method of applying dry heat as a remedial agent.

Ventilation of the Holds of Ships.—A very important question concerning the ventilation of holds in ships has been raised by a letter addressed to the Secretary of Lloyd's. This letter is written by Mr. J. Stanley Metcalf, Consulting Secretary to the North of England Protecting and Indemnity Association. Formerly the hatches were the only means of ventilation for the holds of ships, and these were only lifted off when the weather was fine and dry. Porous cargo had therefore no opportunity of absorbing moisture from foggy or damp weather. But now there are large cowl ventilators, utilized in all weathers, and which let down on to the cargo any amount of damp air. This is readily absorbed, notably by such substances as jute. On the other hand, the ventilation is not sufficient to dry the cargoes. An experiment to illustrate this fact is suggested. If we place dry tobacco in a jar with a small hole in the lid and expose the jar to humid air, the tobacco will become quite damp, and then, even if removed into a dry, warm room, it will remain moist for a long time. Though the small hole, like a cowl on a ship, suffices to let the dampness in, it does not suffice to dry the tobacco. But if we remove the lid of the tobacco jar, or, in the other case, the hatchway of the ship, when the temperature is warm and dry, then the tobacco or the cargo will be in a position to be dried by the evaporation of the moisture. We need hardly point out how injurious to the cargoes and to the health of the persons on board such dampness must be. Where there is a vegetable cargo, such as potatoes, onions, etc., the probabilities are that the damp will cause fermentation, and occasion nor merely the destruction of the cargo, but a foulness of atmosphere dangerous to health. This is so much the case that captains sometimes close all the cowl ventilators as soon as they are at sea and away from the control of the port sanitary authorities. Evidently the regulations as to the ventilation of the holds, where cargo alone is packed, require, in the face of these facts, careful revision.—*The Lancet.*

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Original Articles.

CASES OF APPENDICITIS, ILLUSTRATING DIFFERENT FORMS OF THE DISEASE, WITH REMARKS.

By CHARLES McBURNEY, M.D.,

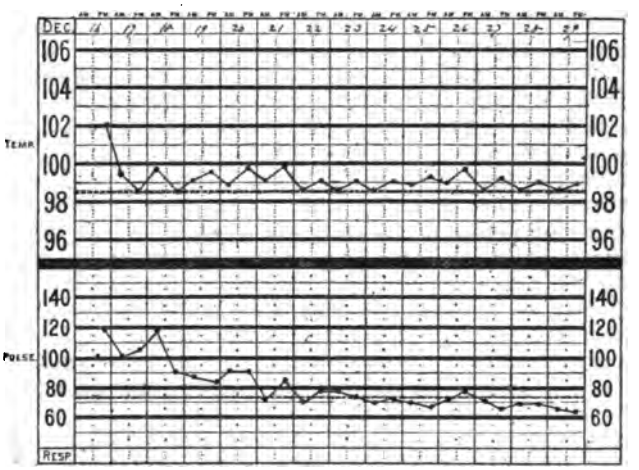
SURGEON TO THE ROOSEVELT HOSPITAL, NEW YORK CITY.

Mr. President and Fellow-Members of the Academy: I feel that I need make no apology for introducing once more the well-known topic of appendicitis, for I know of no other which, at the present time, commands and deserves to an equal degree the deep interest of both the medical and surgical members of our profession. Formerly a comparatively rare disease, because we failed to recognize its every-varying expression, it is now common enough, simply because we have learned to know its changeable face. Here and there it has seized a dear friend or a stranger patient, and from our midst it has carried away those whom we would gladly see with us again, and many of us, as we look back into the past, can now recognize distinctly the retreating form of the intruder whose shadow only was at that time visible. Within the last five years we have learned much about appendicitis, its frequency, its mortality, its insidiousness, and its power, and not a few, more bold than the others, have torn from it its amiable but disingenuous masks of typhlitis, perityphlitis, and the like, which still, however, deeply interest some writers, notably our English confrères. But though we have learned much, we have still much to learn, and the variety of opinion that exists as to the treatment of this disease proves that there is still ample opportunity to reap profit by further discussion. I do not intend to-night to present a statistical paper of experience to support some general conclusions, but rather to present to you a few recent cases over which we may freely consult. I have brought here the records of these only, because they in themselves cover a sufficiently wide ground, and because coming close together, within the comparatively short period of fifteen days, they represent a section of actual practical life, and so possess some individual interest. I have included all the cases seen by me within the period referred to from December 6, 1891, to December 21, 1891.

Case I.—Miss H——, a rather delicate young lady, aged twenty-three, a patient of Dr. R. P. Francis, of Montclair, N. J., has had during the past four years a number of attacks of abdominal pain of short duration, which were regarded and treated as "colic." In February, 1891, she had an attack in which she was attended by Dr. Francis, who recognized the signs of appendicitis clearly defined. The constitutional signs were slight, the temperature at the highest being 99.8° F., and the illness lasted only four or five days, when all signs of appendicitis disappeared until the middle of October last. From that time some tenderness was felt in the right iliac fossa, and for a number of days the patient made use of a hot-water bag from time to time to relieve pain. On December 14, 1891, in the evening, decidedly increased pain was felt in the lower abdomen, mostly in the median line, and but little in the right iliac fossa. The temperature was then 98.2° F., and the pulse 100. The bowels had moved in the morning. One-eighth grain of morphine was given twice, and during the night nausea and vomiting occurred. The next day the local signs of appendicitis were well marked, but the pulse and temperature had not risen. On the 16th, in the morning, the temperature was 99.2° F., the pulse 84, and nausea had disappeared.

At noon sudden severe pain was felt in the right iliac fossa, and extreme sensitiveness to the slightest touch was noted to exist at the situation of the base of the appendix. Temperature and pulse remained normal. Three hours later the tenderness was less, but the temperature was 100.5° F., and the pulse rate 100. At 6 P.M. the temperature was 102° F., and the pulse 120; and nausea was continuous. Small doses of morphia and atropia were administered.

On December 17th, at 4 A.M., a second attack of sudden severe pain was felt in the right iliac fossa. The abdomen became very slightly distended, but the temperature was found to be only 99.5° F. At three o'clock in the



afternoon I saw the patient for the first time, together with Dr. Francis, Dr. L. F. Pinkham, and Dr. C. T. Parker. The patient's temperature was still only 99.5° F., the pulse excited at 110. Nausea was present, and the abdomen was slightly rounded. At a point two inches from the anterior superior iliac spine, in the direction of the umbilicus, great sensitiveness to pressure existed. Close to the spinous process, and along the outer fourth of Poupart's ligament, a small, very sensitive tumor, about one and a half inch in length, could be felt. The diagnosis made was perforative appendicitis, with suppuration already begun. Operation was done at once. The incision was made in the long axis of the tumor, about one inch away from the anterior spinous process.

The appendix was readily found. It lay directly beneath the incision, was half gangrenous, perforated at its middle, and contained a fecal concretion the size of a cherry seed. About two drachms of pus surrounded the appendix, and this fluid was well prevented from entering the general cavity by a uniform abscess wall. No injury to the abscess wall occurred during the operation, and the appendix was ligated with catgut and removed, the stump being disinfected with the cautery. The cavity was thoroughly cleansed and packed with iodoform gauze, without drainage-tube and without irrigation. The subsequent history of the case is extremely simple, and is well told by the charts. No outward symptoms of any kind occurred. Dressings were made on the 20th, 23d, 26th, and 30th, and so on. The bowels moved by

enema on the third day. The patient was able to get up and walk on the thirtieth day after operation, and has remained in perfect health since.

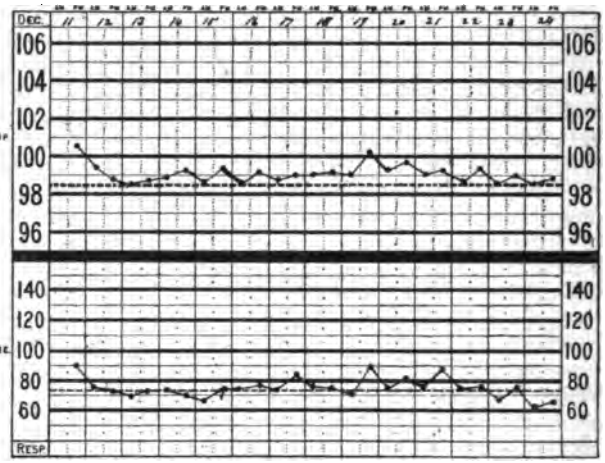
This case represents a class of cases of quite common occurrence, in which during the first twenty-four hours of the illness it is difficult to satisfy one's self as to whether the attack will subside under rest, a little anodyne, and cold or hot applications, or whether a process has begun whose natural history is to develop more serious conditions. During this early period, with such signs as have been described, no careful man would think of insisting that for the treatment of this attack operation was inevitable. Great as the success of early operation is, one must acknowledge that there *is* danger in a serious operation like laparotomy, done for *any* purpose, and if one could *choose* the time for such an operation, one would certainly choose a time after the subsidence of an acute inflammation, when preliminary treatment could be adopted, and special and deliberate precautions could be taken against disaster. There *are* very numerous cases of mild appendicitis which do *not* need operation, and I emphasize this statement because I wish to protest against the disingenuous attempts to earn a reputation for conservatism which have been often made by those who refer vaguely to others as performing "indiscriminate laparotomies for appendicitis," "operating upon every case," "cutting every one open for colic," etc.

Such statements are untrue, and do harm by lulling into a false sense of security the man who for the first time meets with a treacherous case.

What led, in the case whose history has been just read, to the diagnosis of "perforative appendicitis, with suppuration already begun," was, in the first place, the *sudden* severe pain felt, toward the end of the second day, in the right iliac fossa, followed in a few hours by a rapid rise of temperature, and the existence of a palpable, sensitive tumor of recent formation. The combination of these two signs, in my experience, invariably means suppurative disease. Now it is true that in this case the appendix lay at the most favorable situation, at the extreme right, was next to the anterior abdominal wall, and the pus was well restrained from spreading by a complete abscess wall. If it is asked, Why operate upon such a case immediately? I reply, Why not? If a patient is in good condition, if an operation is certain to be demanded sooner or later, why wait for the abscess to reach a large size, and expose the patient all the time to *some* danger of rupture, with general peritonitis, or general sepsis, or extensive burrowing of pus? Such delay means conservatism of pus, to be sure, but has no advantage, and yet so distinguished an author as Mr. Treves, who speaks so slightingly of American operators, tells us that "surgical interference before the fifth day should not be undertaken except in the presence of very emphatic symptoms." I dislike much to wait for the symptoms of a serious malady to become too instructively emphatic.

CASE II.—Henry B——, a healthy young man, aged twenty-four, had, in July last, an attack of severe abdominal pain, which, however, lasted only one night, and its nature was not determined. He remained in good health from this time up to November 29th. On this date he was suddenly seized with severe abdominal pain, which was felt most intensely in the right iliac fossa, and which was accompanied by nausea and vomiting. The pain continued the next day, but nevertheless the patient attended to his work, that of a baker, every day for the next eight. He then went to bed, the pain abated somewhat, though marked tenderness in the right iliac fossa continued. He was admitted to the Roosevelt Hospital on the night of December 11th, twelve days from the beginning of his illness, able to walk perfectly well, though looking worn and ill. His temperature was 100.5° F., and his pulse 90. Rigidity of the abdominal muscles was not well defined; the belly was quite flat, but marked tenderness existed at the typical situation, two inches from the anterior spine of the ilium toward the umbilicus. On deep palpation a small tumor could be indistinctly felt. The diagnosis was "deep-seated small abscess of some duration, due to appendicitis."

Operation was done the next day, December 12th, at my clinic. An incision about four and one-half inches long was made about one inch outside of the linea semilunaris. The peritoneal cavity was deliberately opened throughout three and one-half inches, and no adhesions or any other inflammatory products were at first seen. The base of the appendix was found by carefully examining the caput coli, and the appendix was traced from this point backward, inward and upward, behind the caput coli, to a small inflammatory tumor. The end disappeared in this tumor. The base of the appendix was first ligated with two ligatures and divided between them, and the two cut ends were disinfected with the cautery. The appendix was then separated, by dividing its mesentery, until the tumor was reached. The intestines were carefully pro-



tected with sponges, the tumor broken into, and about one-half ounce of pus was evacuated. The abscess cavity lay quite behind and to the inner side of the caput coli. No connection existed. The abscess cavity was carefully sponged out without irrigation, and the whole cavity packed with iodoform gauze out to the external wound. On the next day the temperature, morning and evening, was normal, and the chart shows the subsequent history. Dressings were made on the 16th, 19th, 22d, 24th, and so on, until January 4th, when secondary sutures were applied to hasten the healing of a flat, granulating surface. Union was complete on January 9th, and the patient was allowed to be up and about on January 12th, thirty-one days after operation. He has remained well since.

The story of this patient is a not very uncommon one, the disease beginning in the usual manner, developing very slowly, then coming almost to a standstill, perhaps because the abscess lay so well protected behind and to the inside of the caput coli. Very likely if he had been treated in bed from the beginning, the temporary cessation of symptoms, so often called cure without operation, might have been more complete, and a period of imperfect health without marked signs of disease might have followed, this period ending in an outbreak of disease more or less severe, and possibly fatal. In some similar cases, of which I have seen several examples, the collection of pus becomes completely encysted—that is, surrounded by a very thick inflammatory wall, and the patient attends to his usual avocations, though always partially disabled. These cases, when they do come to operation at a late period, are very difficult to cure, for though it is easy to open the abscess, the dense, almost cartilaginous wall, is very unfavorable to granulation healing. The diagnosis in the case whose history has just been read was based upon the history of the outbreak, the persistence of symptoms, the ill look of the patient, the existence of fever, and the presence of tumor.

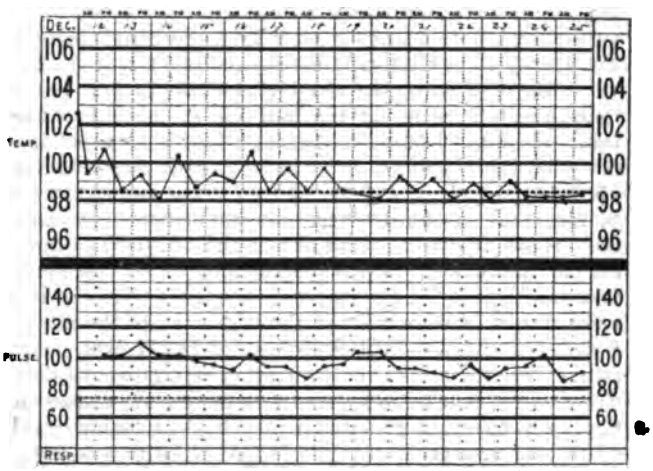
Neither the use of the exploring syringe nor an inves-

tigation of the rectum, which latter method some of my colleagues seem to think highly of, were needed to convince any careful observer that disease existed for which there was in reality only one remedy. Mr. Treves tells us, when writing of the suppurative cases, that "the later the operation is delayed, the more easily and directly can the pus be reached." This statement is a pleasing one to those who continue to believe that the pus in these abscesses always makes its way toward the anterior abdominal wall near Poupart's ligament. It can hardly be true of those cases, and they are common enough, in which the pus burrows in exactly the opposite direction, nor does it take any account of the damage that is being done, both general and local, while the "ease" of the operation is so gratifyingly increased. The same author also states that "if a very early incision became the rule, it would frequently happen that the matter could not be reached without first opening the general peritoneal cavity, and could not escape without first finding its way into that space." This statement is perfectly true, but I fear that many practitioners share with Mr. Treves the erroneous belief that, because it is true, we should delay interference, in the hope that some easier method may turn up. Now I wish to call especial attention to the fact that has been developed almost entirely by American surgeons, that the safe way to open these deep-seated abscesses is to first deliberately open the peritoneal cavity and carefully note the relations of the parts. It is then a comparatively simple matter to cautiously unravel the tangled mass of organs—that is, it is much simpler and safer than to cut steadily onward from the blind side, and before one knows what the wall of the abscess is made up of. Then, before such a deep-seated abscess is actually opened, if the road that has been cleared to it is lined with carefully held sponges, a small opening can be made into the abscess and the pus caught on a sponge almost guttatim and harmlessly removed. This practice has been a common and successful one in New York for a considerable time. Cases of deep-seated abscess opened at an early period in this manner will very rarely, indeed, end in any other way than in rapid recovery. Numerous cases are occurring where delay in operation allows of the commencement of a sepsis for which the knife is a poor remedy. Nevertheless, cases will be met with, as in the aged or the very fat, or the already overdistended, in which the chance of the abscess approaching the surface is to be preferred to the danger in such cases of a long or very difficult operation.

CASE III.—A. H——, a sturdy German girl, aged twenty-three, had frequently had acute attacks of abdominal pain, the exact nature of these being unknown. On Wednesday, December 9th, very severe general abdominal pain was felt. This pain was continuous, and remained general until eleven o'clock on Thursday morning, when it quite suddenly became localized in the right iliac fossa. Great tenderness on pressure in this region was noted, and nausea and vomiting began and persisted throughout the day and the following night. This patient was admitted to the Roosevelt Hospital on the night of December 10th last, pain and tenderness having diminished, and the temperature and pulse being respectively 100. The signs already described were noted, and also that the point of maximum tenderness to pressure was situated two inches to the inside of the anterior spine of the ilium and a small fraction of an inch below the line drawn to the umbilicus. Slight rigidity of the right abdominal muscles was present. Constipation had existed since the beginning of the attack. No signs of other illness than appendicitis could be found. It seemed not improbable that the attack might subside, and operation was not suggested. On the following day, while the general pain was nearly gone, the local tenderness was the same, and the temperature had risen to 101° F.

The general appearance of the patient was excellent, and, had the local tenderness diminished, I should, on the morning of December 12th, have thought that the patient was recovering, for the temperature had fallen to 99.4° F. But though no tumor existed the local signs were clearly those of a sharp, inflammatory process, and were not subsiding. Operation was, therefore, done on December 12th. Incision was made as in the preceding case, and the peritoneal cavity deliberately opened. On first searching for the appendix it could not be found, and search was then made for the caput coli. This also was absent from the neighborhood of the wound, though the large intestine, which proved afterward to be a transverse colon, constantly forced itself into the wound. Finally, after systematic examination over a wide area, the appendix and caput coli were found far back in the right loin, near the kidney, and quite firmly adherent at this point. The distal half of the appendix was entirely gangrenous, perforated, and surrounded by a couple of drachms of pus. A few imperfect uniting adhesions existed at the inner side, and on the outside the appendix was firmly attached to the lateral abdominal wall. The appendix was separated with ligatures from its mesentery, ligated at its base with catgut, and cut away, the stump being as usual disinfected with the cautery. After thorough dry-sponging, the cavity, where diseased tissue had existed, was packed with dry iodoform gauze, without tube drainage, and a general bichloride dressing applied. No shock occurred, and the next morning and evening temperatures were, respectively, 98.4° F: and 90.4° F.

The chart tells the story of the subsequent course in



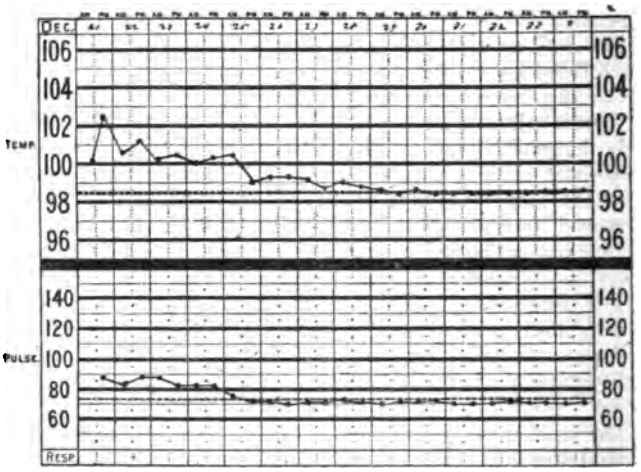
this case. Dressings were made every fourth day until December 25th, when secondary sutures were applied to close a nearly flat, granulating surface. Union was complete on December 31st, and the patient was discharged on January 16th.

This case is suggestive of a not uncommon incident, occurring not long after the beginning of an attack, and which sometimes gives rise to a false feeling of security. I refer to the fact that at the beginning of the third day the temperature, which had been 101° F. twelve hours before, had fallen to 98.4° F. Probably the rise is due to the invasion of an absorbing surface of septic material, and the fall to coagulation in the vessels, and the temporary stay of absorption. At any rate, it is a phenomenon which has frequently occurred, even in severe cases, and it proves that the temperature alone is not a safe guide as to the severity of the lesion. This case also demonstrates the value of a diagnostic feature to which I called attention more than two years ago. I refer to the fact that in the early stages of appendicitis the most acute tenderness is felt at a point, quite accurately, two inches from the anterior spine of the ilium, in the direction of the umbilicus. If the examination is made with one finger-tip alone, not with three or four, this characteristic will rarely fail of demonstration. The point of greatest tenderness is sometimes a little removed from the spot described, but the variations are rare, and not great. Of the truth of the observation I have been as-

sured by many friends who have themselves tested it frequently. The sign is not invariable, but nearly so. One would hardly look for it, as some seem to have done, in the advanced stages of the disease, when abscess is approaching the rectum. In difficult cases, and some of them are very difficult, and no two are quite alike, the discovery of the appendix, even that of the caput coli, may baffle for a while a careful search. I believe the better plan is to first insert the finger, which will often detect the appendix at once. If that method is not immediately successful then one should look for the caput coli, for if this is found, the base of the appendix is of course to be detected. If doubt still exists, then one should follow the ascending colon downward till the caput coli is reached and the point where the ilium joins it seen. Systematic search will always be rewarded. Recent adhesions will always yield to the finger-point or some other dull instrument, while old ones can frequently be more safely cut. If one keep close to the wall of the appendix such cutting can be made safe, though sometimes it is best to leave a thin scale of the wall on an intestine, and occasionally it may be unwise to insist on the full dissection of the organ. Even then, if the wound is treated by wide packing cure will result by granulation.

CASE IV.—L. T. G——, a gentleman aged fifty-six, of heavy build and usually excellent health, while on his way to New York from a distant city, was quite suddenly seized, at nine o'clock in the evening, with nausea, vomiting, and general abdominal pain. His illness was so severe that, before reaching New York, he telegraphed to Dr. Henry F. Walker, of this city, to meet him on arrival. He was carefully taken in an ambulance to his hotel, reaching there on the morning of December 21st last. He looked ill, and complained of severe abdominal pain, felt chiefly in the anterior part of the right loin. He was put to bed, and visited frequently during the day by Dr. Walker, who strongly suspected acute appendicitis. His temperature remained at 100° F. until evening, his pain increased, and his general look of serious illness became steadily more marked. At nine o'clock that night, forty-eight hours from the beginning of the attack, I visited Mr. G—— at the request of Dr. Walker. The patient had the gray, tired look so characteristic of commencing sepsis. His abdomen was moderately distended, rigidity of the right abdominal muscles was highly developed, and very great tenderness on pressure was noted at a point considerably above the usual situation and over an area of several inches at the front of the loin, but at no other part of the abdomen.

The temperature had risen within two hours from 100° F. to 102.5° F., and the pulse was full and bounding. The diagnosis made was that of acute gangrene of the appendix, with perforation. I believed, and stated, that operation should be done without delay, if a rapidly fatal condition was to be anticipated. Dr. Walker was entirely of the same opinion, and we were reinforced by that of Dr. Weir, who was called in consultation. Operation was done at midnight, in the presence of Drs. Walker, Weir, Geo. M. Swift, and C. T. Parker, the latter gentleman immediately assisting me. A very large incision was required, high up in the loin, on account of the great thickness of the abdominal wall. The appendix was found lying to the outside of the ascending colon, well in the loin. It was curved like the letter S, was five inches in length, and as large round as a man's thumb, owing to a very extreme degree of over-distension. It was completely gangrenous from apex almost to the base, but not perforated. This condition rendered its separation without rupture very difficult, but this was finally accomplished, the exudation being very slight, and it was ligatured close to the colon and removed. The stump was immediately cauterized. On further examination the appendix was found to be stuffed to the utmost point of tension with soft fæces, a very unusual condition. No pus had formed, so that the region formerly occupied by the dead organ was completely cleared of diseased tissue. The large cavity was treated, as in the other cases, by dry-sponging, and then was packed with iodoform gauze, without tube drainage. No nausea or other unfavorable sign followed the operation. At eight o'clock the next morning the temperature was 100.3° F., and at 10 P.M., 100.1° F. Comfortable days and nights followed, as is



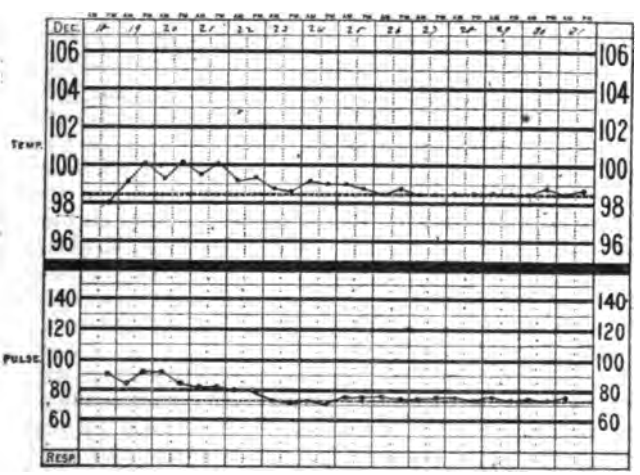
shown by the chart, the bowels acting after the second day with enema or mild laxative. The first dressing was made on the 25th, and other dressings followed every fourth day. On February 2d the patient was able to walk about the city freely, with a small line of surface granulation only unhealed.

This case represents very well a not uncommon class, in which gangrene of the appendix develops rapidly, septic signs appear early, and the diagnosis not having been made, decisive action often follows, rather than precedes, septic paresis of the gut and general septic peritonitis. And yet the indications were not more clear than is often the case when the lesion is by no means so grave. Fortunately Dr. Walker appreciated at an early period the fact that for this particular case of disease but one remedy was worth considering, and having reached that conclusion he lost no time in applying the remedy. The circumstances were not agreeable. The patient had come to New York on a flying trip, intending to return home in twenty-four hours. No member of his family was with him, and both Dr. Walker and I were perfect strangers. Fortunately he was a man of courage and a brief explanation was sufficient. While Dr. Weir was being sent for, all preparations were made for a careful operation, and as soon as possible, at midnight, it was done. No one present failed to appreciate that the lesion discovered was such as would have within a very few hours passed beyond either medical or surgical control. If this were an isolated case, we might be excused for failing to learn the special lesson it teaches. But it is by no means an isolated case, as can be well attested by those who have had the opportunity to see many desperate cases that have been dallied with until the opportunity to save life has passed. Is it any satisfaction at such times to comfortably say that some very bad cases have gotten well without operation? Are morning and evening consultations in order for several days after the diagnosis has been made, and the fact appreciated that there is really only one proper remedy? It is a noticeable fact that cases operated upon after long delay and numerous consultations are frequently fatal or extremely hazardous. It is of no comfort to be assured that few cases die before the fifth day, for we know positively that those who die on the fifth day have begun to die on the second or third, and if we would avert such an end we must anticipate the beginning of conditions which, with or without medicine or surgery, have but one end. I am surprised to see in the printed report of the "Proceedings of the County Medical Society of Philadelphia," at a meeting

held in September last, that so representative a man as Dr. Pepper said that "if every case of appendicitis were operated upon the mortality would be tenfold what it now is." The mortality is at present over twenty per cent. in cases treated by the expectant plan, so it is very evident that Dr. Pepper's view of the possibilities of surgery is a very black one But it is hardly worth while to follow his line of argument, for it seems to be based on the assumption that surgeons wish to operate upon every case of appendicitis. I have never read or heard that any surgeon has expressed such a wish. My own experience, and that of many others, has been that operations for acute appendicitis done at the right time, and before the disease has progressed too far, is nearly invariably successful. Out of some fifty such cases I have seen only one die. I should like to adopt the clever suggestion made some time ago by Dr. Jacobi, that we cease to talk of "early" operation, and make use of the term "timely" operation. This expresses exactly what should be done. So soon as the conclusion has been reached in a given case that operation is the proper remedy, the operation should be done then, if no contra-indication exists. Of course, if a diagnosis cannot be made, delay is unavoidable, but when the decision has been arrived at the operation should be done, whether in the evening, or at midnight, or in the early morning. If one has the courage of conviction as to the remedy, he will not delay long.

As regards the diagnosis of the conditions which should lead to operation, I must differ entirely with Dr. Pepper and others, who think highly of the method of examining the appendix through the rectum. In the early stages of appendicitis this method has no value whatever. Of course, those who are accustomed to allow abscesses to reach a large size, will in time find a bulging tumor low down in the pelvis. We had better devote our attention to learning the signs of suppurative appendicitis before the abscess has threatened the rectum.

Case V.—On December 15th last, I was requested by Dr. Isaac Adler to see with him Arthur B——, a pale, delicate-looking boy, aged fourteen. In August last the lad was in Paris with his parents, where he had a quite severe attack of illness, characterized by very great right iliac pain, vomiting, fever, and very obstinate constipation. He was attended at this time by Dr. Herbert, an English physician, and by Dr. William M. Polk, of this city, who pronounced the case one of appendicitis. The



boy spent eighteen days in bed, and then was considered well. On the voyage back to this country a mild attack of abdominal pain occurred, and on November 4th, here in New York, he had a well-defined attack of appendicitis in which he was attended by Dr. Adler. This attack occupied in all a little less than three weeks. On December 5th a fresh attack again occurred under Dr. Adler's observation, occupying about one week. In the intervals between the attacks referred to the boy was only partially well, being pale, not vigorous, thin, and irregular in appetite. When examined by me, on December 15th, he looked old and tired, and was clearly not well. Physical examination developed only one clear sign of disease—namely, decided tenderness on deep pressure with a single finger at the typical situation of the base of the appendix. But the history of the case, and more especially the accurate observations made in the last attack by Dr. Adler, left no room for doubt that we had to deal with a true case of recurrent appendicitis. Early operation was decided upon, as much safer than the closest passive observation, and the operation was done on December 18th, in the presence of Dr. Adler, and with the immediate assistance of Dr. C. T. Parker. The base of the appendix was readily found, and this portion and the adjacent peritoneal surfaces were in a normal condition. The appendix pointed straight downward and inward, and was firmly attached by its apex to a point deep in the pelvis, more than four inches from the abdominal wound, where it ended in a small inflammatory tumor. The separation of the appendix at this point was difficult, owing to its depth and to the very close attachment of small intestine, but slow dissection finally opened a small abscess containing not more than half a drachm of pus, which was caught on a small sponge. The tip of the appendix was quite destroyed, and a small scale of its wall was left attached to the small intestine, lest removal of it might open the gut. The base of the appendix had been first severed after ligature and the stump cauterized. A long strip of packing was carried to the seat of the abscess, and the outer wound more freely packed, though about half of it was closed by suture. The usual outer dressing was then applied. During the next twelve hours occasional vomiting occurred, but the morning and evening temperatures on the next day were 99.2° F. and 99.3° F. For two days accumulations of gas in the intestines were troublesome, but yielded to enemata. The chart tells the story of a very unbroken convalescence, and the patient left his bed on the thirty-second day, with a piece of adhesive plaster to support the edges of the closed wound. At this time he had a perfectly healthy color, was bright and happy, and had gained much in flesh. He has continued perfectly well since that time.

This is a typical though not severe case of what has been called recurrent or relapsing appendicitis, a form of the disease which is being constantly more and more clearly recognized; that is, through the more frequent appreciation of the true nature of first attacks, and through the more careful study of the patients' subsequent histories, we have learned that while many mild cases of appendicitis tend toward recovery, and some severe ones, too, many of these are prone to relapse, some in a mild way, over and over again, until finally a severe, or even fatal attack appears, and some having a very severe attack on the second occasion. Many of these cases get over an attack and are pronounced well, but they are not well, and they do not feel so. Tumor and local pain disappear, though the latter can often be discovered if careful examination is made. But the patient is not really restored to health. He loses flesh, becomes anæmic, is often ailing, sometimes quite disabled by dull pain in the right side, and the bowels are frequently constipated. After a longer or shorter period he has another sudden outbreak of appendicitis and again gets "well," as it is called, and then has another outbreak. Others really appear to get well, and forget completely the former illness, when they, too, are surprised by a violent repetition. Many of my medical and surgical friends have assured me that they consider the tendency to relapse, after apparent recovery without abscess or operation, as strong, although far from invariable. This is my own opinion, and yet I fully believe that in numerous cases the disease cures itself by obliteration of the calibre of the appendix. I would ask those who speak so confidently of the permanent recoveries from severe attacks of appendicitis how long and how completely their patients have re-

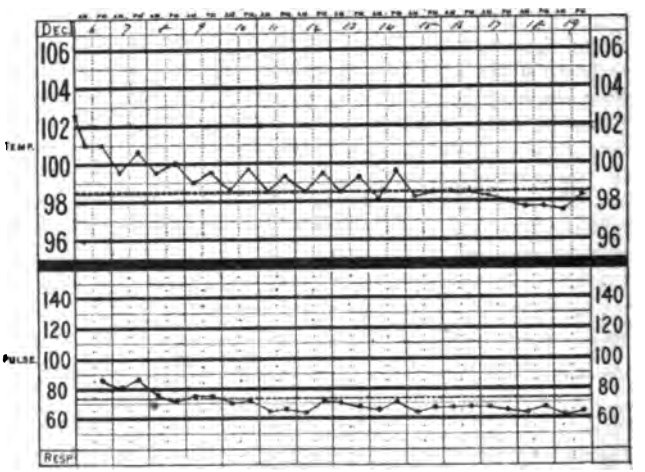
mained well. I would also ask them how much time their relapsing patients have lost, and how much illness and anxiety has been suffered in the course of a half dozen attacks. These points must be taken into consideration, as well as the actual danger in any one attack. One of my patients had twelve attacks in one year, and during that time was never well, and in all, three months were spent in bed. Operation restored permanent health completely. Another, a physician in the country, for several years had attack after attack, on different occasions, spent weeks in bed, and was on the point of giving up his practice and going to live in a city where, if necessary, he could obtain surgical help, when I persuaded him to have his appendix removed, which was done successfully.

In many of these cases we have reason to feel fairly safe as regards the probable danger to life from the next attack to be anticipated, for in many of them a long antecedent history aids much in the prognosis. But even in these cases we feel anxious, and in those whose attacks are increasing in variety we cannot but feel that they are in constant danger. A voyage, a journey, a pleasure trip, has over and over again been selected by the disease to make its reappearance. In those again where the effects of old attacks are noted in the form of more or less clearly defined tumors at the site of the appendix, or where imperfect health occupies the interval between attacks, the desirability of surgical interference has been clearly demonstrated. Of course no general rule can be laid down which will apply to all cases. Each one deserves study by itself, and by comparison with others. Owing to the repeated attacks of inflammation and the existence of firm adhesions, the operation in recurrent cases may be quite difficult, and is accompanied by some danger, as is every surgical operation of importance. I have myself operated on such cases some sixteen or seventeen times. I lost one patient from sepsis, a danger which cannot as yet be absolutely excluded from any surgical operation. All of my other cases have remained permanently well without recurrence.

CASE VI.—Nearly a year ago I was asked by Dr. Charles Hackley to see Dr. W——, a physician, fifty-six years of age, a personal friend of many of those here tonight. I found him in bed complaining of rather obstinate constipation, but without fever or other noticeable sign of illness. In the right loin, at a point corresponding to about the middle of the ascending colon, or a little lower, could be felt a small tumor, an inch and a half in length and an inch in width, partly movable and very slightly tender on firm pressure. While this felt somewhat like a lump of fæces in the colon, I feared it was a carcinoma of the gut, and rather expected increasing obstruction. Laxatives, however, emptied the bowels, and the tumor disappeared. At the end of five or six days the patient was up and about, with but little of the former sensation in the loin left. But his discomfort in that region was never entirely absent, the bowels were irregular in action, and occasionally mild abdominal pain was a source of annoyance. On Friday, December 4th last, in the afternoon, he felt more pain than usual and went to bed early, remaining in bed the next day, decidedly more uncomfortable, and the pain being clearly referred to the right loin. At about two o'clock very severe agonizing pain set in and continued uninterruptedly until, at half-past five, he was visited by Dr. Charles T. Poore, who administered morphine, giving marked relief.

At Dr. Poore's visit, at 5.30, the temperature was noted to be 100° F. I saw the patient at seven o'clock and found him complaining of constant pain, which was rendered totally unbearable by the lightest touch over a point two inches above the usual situation of the base of the appendix. The pain on pressure was great, though diminishing, as one drew the finger upward and outward in the loin. In this short time, one hour and a half, the temperature had risen to 102.5° F., and the pulse was that of severe disturbance, and very weak. The patient was pale and anxious-looking, and his general appearance was that of one suffering from marked shock. I saw him again in three hours, and found the conditions the same, with the signs of shock still prominent. The diagnosis of acute appendicitis with perforation was made, but I did not dare to administer an anæsthetic, for I believed the patient would succumb from that alone. It was determined to treat him for shock during the night, in the hope of bringing him to an operable condition. Fortunately this was accomplished, and when I visited him the next morning, with Dr. Charles Hackley, his general condition had very greatly improved, the temperature had fallen to 101° F., and the pulse was much better at 86, though the local signs remained perfectly clear.

Operation was done at twelve o'clock, in the presence of Drs. Charles T. Poore, Charles Hackley, F. W. Murray, and C. T. Parker. These gentlemen assisted me at the operation. An incision rather high in the front of the loin was made, and the peritoneal cavity deliberately opened. The appendix was readily found lying to the outside of the ascending colon, pointing upward and reaching nearly to the kidney. It occupied the exact situation of the tumor felt eight months before. The organ was about three inches long, was very much thickened and inflamed throughout, and had about it a drachm or more of free pus. No protecting abscess-wall existed, and at the middle of the appendix was a round hole the size of a pea, and a corresponding fecal concretion lay near by, free in the peritoneal cavity. The removal of the appendix was easily effected, the stump treated in the usual manner with the cautery, the cavity cleansed by dry sponging and then fully packed with iodoform gauze without tube drainage. The wound was partially closed at the upper end by suture. The temperature the next morning was 99.6° F., and in the evening 100.6° F., the general condition being perfect. The chart shows a very



normal convalescence. The wound was dressed on the 10th, 15th, 16th, 19th, and so on until the 27th, when secondary sutures were applied to hasten the closure of the nearly flat, granulating wound. The patient was allowed out of bed on the thirty second day, and has since remained perfectly well.

The case of Dr. W——, just reported, suggests, in the first place, that mild attacks of appendicitis from which patients often rapidly recover may be followed by relapses of dangerous severity. So far as I am informed, no surgeon has ever proposed that, to provide for such cases, every mild attack of appendicitis should be treated by operation. This insinuation has been made by Dr. Pepper and others, and, starting with a statement which has no justification in fact, an argument has been raised which does not follow the lines of thoughtful study. The fact that dangerous relapses may follow mild attacks would rather suggest that every case of appendicitis is well worthy of careful study, not only at the time of the mild attack, but for a very considerable length of time

subsequently. In this manner we shall sharpen our diagnostic faculties, and so, probably, learn to more accurately forecast the future than at present we are able to do. R. W——'s history also calls to mind that, even in a severe attack of perforation by concretion, contra-indication to immediate operation may exist. In this case the contra-indication present was a very marked degree of shock which followed immediately upon perforation, and resembled that following bullet-wounds. I should have been unwilling to administer an anæsthetic to any patient presenting the appearance which R. W—— did for many hours after perforation occurred. His subsequent history justified the delay, for with the aid of a moderate quantity of morphine, stimulation, and rest, his shock disappeared, and on the following day he was in a condition to bear the rather long and difficult operation required, without the slightest injury. The case of the late Dr. Agnew resembled that of R. W—- , in that marked shock, too great to permit of operation, immediately followed perforation. Dr. Agnew never rallied, and it was only as a desperate resource that Dr. Sands felt forced to operate at the end of two days' delay.

The feebleness of old age, unusual obesity, complicating diseases, and unmanageable over-distention, may justify the surgeon in refusing to offer with the aid of the knife the relief perhaps most urgently called for. Probably the most conservative practitioner, knowing the lesion which existed in R. W——'s case, would not advise, under similar circumstances, the trusting of his patient's life to any medical measure known to science. The extraordinarily great variety in the signs and lesions of the disease under discussion will probably prevent us from ever formulating a set of rules such as some writers delight in referring to as routine practice. It will, however, always be good routine practice to study critically every individual case of a disease which belongs to a class that often enough destroys life, and to be willing to carefully weigh the value of experience even if contributed by those who observe from a different standpoint.

Let us remember that it is not so very long ago, quite within the clear recollection of many of us, that we were taught that idiopathic peritonitis was a common enough disease, and that peritonitis in general was to be treated by medical measures only. Since then we have added to our store of knowledge, first by one observer and then by another, much valuable information in regard to the causes of peritonitis, and the possibility of attacking these successfully. The surgeons, and chiefly those of America, deserve the credit of having added most largely to our knowledge of appendicitis, the most frequent of all causes of peritonitis in the male. To them chiefly belongs the credit of having demonstrated the practicability and safety of treating this disease by the incomparable method of removing its cause. If we would accomplish the most by our discussions on this topic, then physicians and surgeons must join hands, the physicians accepting the fact that the surgeon does not always wish to operate, and the surgeon gladly stepping aside when he sees that success can be attained by his colleague's gentler methods.

Five years ago we stood a little timidly on the edge of the new country, determined to go on; but dreading the discovery of hidden dangers, perhaps of insuperable difficulties. To-day I do not hesitate to say that never in the history of surgery has a major operation so soon established itself in so strong a position, so well supported by sound knowledge and unimpeachable facts as the timely operation for appendicitis.

Temperance Movement in Japan.—Mr. S. Tsuda has presented a petition, signed by more than three thousand members of the Temperance Society of Japan, to the Japanese House of Representatives, praying for increased taxation of alcoholic liquors, with the object of lessening the consumption of them.

LEGISLATION ON MEDICAL AND HEALTH MATTERS IN THE VARIOUS STATES IN 1891.

By HENRY A. RILEY, A.B., LL.B.,

NEW YORK.

(Continued from p. 317)

Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, and Nebraska.—The Maine Legislature passed a law modelled after the New York statute of 1890, relative to the prevention of blindness in new-born children. It provided that should one or both of the eyes of an infant become inflamed or reddened at any time within four weeks after birth it shall be the duty of the midwife, nurse, or person having charge of said infant to report the condition of the eyes at once to some legally qualified practitioner of medicine of the town or neighborhood where the parents reside.

A failure to comply with the law was punishable by a fine not to exceed $100, or by imprisonment not to exceed six months, or both.

A law was enacted providing for the State registry of vital statistics, and the Secretary of the Board of Health was made Registrar.

Blanks were required to be issued to clergymen, physicians, sextons, town clerks, and other officers, in order to secure a record with full particulars of all births, marriages, and deaths. All births and marriages were required to be reported within six days.

No burial or disinterment was allowed without a permit, and this was to be furnished by the clerk of the town after the physician and undertaker had filed certificates setting forth the facts connected with the death. When this occurred without medical attendance the facts could be stated by relatives or other persons.

Any person wilfully neglecting or refusing to perform any duty imposed by the law was to be fined not more than $100 for each offence.

The rule in this State allowing only $5,000 for a death caused by negligence was adopted, and it was also required that the action for damages should be brought within two years.

A general law regulating dentistry was passed, and all persons practising without a certificate after the expiration of three months were to be fined in a sum not less than $25 and not more than $100.

A State Board of Examiners was appointed consisting of five dentists in good standing and who had been in practice for five years.

All persons besides dentists in practice at the passage of the act, and who had secured certificates within three months, were required to pass an examination in anatomy, physiology, pathology, therapeutics, chemistry, and the theory and practice of dentistry.

The fee for this examination was $20, which was not to be returned if the candidate was unsuccessful, but he was entitled to a second examination without further charge.

The law stated that its provisions did not apply to physicians and surgeons in the discharge of their professional duties, nor to any citizen in the extraction of teeth in cases of emergency. A law was passed providing that no cemetery should be nearer than twenty-five rods to any dwelling house if written protest by the owner was made.

It was made the duty of all teachers of the public schools to devote at least ten minutes a week to teaching the children the principles of kindness to birds and animals.

The offence of wilfully driving any nail or spike into a log which would be likely to cause injury to the saw or endanger the life or person of anyone engaged in handling the log was declared to be a serious one, and the punishment was made a fine of from $100 to $500, and imprisonment for a period of from one to five years.

The offender was also liable civilly to double the damages sustained.

The Eastern Maine General Hospital at Bangor was incorporated and given authority to establish a training-school for nurses.

The Gardiner Hospital at Gardiner was also incorporated, and similar authority given for a training-school.

The Maine Homœopathic Hospital at Portland was established under the management of thirteen trustees.

Massachusetts.—In Massachusetts a considerable amount of legislation was enacted which will be of interest to the profession. It was provided that physicians should report at once in writing over their own signatures to the Selectmen or Board of Health all cases of small-pox, diphtheria, scarlet fever, or any other disease dangerous to public health which they had been called on to attend. The penalty was a fine of from $50 to $200.

An amendment was passed to the law authorizing the taking of dead bodies for anatomical purposes, so as to include among the institutions which could furnish such bodies the workhouse or public institutions of the city of Boston.

It had been formerly the rule to permit the giving up of bodies which were not claimed for twenty-four hours, but this limit was extended by amendment to three days.

A law was passed that any inmate of penal or charitable institutions who shall have syphilis shall be at once placed under proper medical treatment, and where the attending physician thinks the treatment requires, or the disease is contagious so as to be dangerous to the health and safety of the other prisoners, the patient shall be isolated until the danger of contagion has passed.

If any prisoner at the expiration of his sentence has syphilis so as to be considered dangerous to public health or safety, such prisoner shall be detained and properly treated until the danger of contagion has passed away. The expenses of support of prisoner are not to be more than $3.50 per week.

Any person receiving an infant for board or procuring it for adoption must use diligence to ascertain if the infant is illegitimate, and if he believes so, must notify the State Board of Lunacy and Charity, and the Board may remove such infant if deemed necessary to preserve its life.

The manufacture and sale of children's toys containing, or coated wholly or in part with, arsenic is prohibited under a penalty not to exceed $100. The State Board of Health was authorized to investigate in order to ascertain the existence of arsenic in any paper, fabric, or article offered for sale, and $1,000 was appropriated for xpenses. All vendors of suspected articles were required to furnish samples for analysis when payment was offered, under penalty of $100.

The statutes against oleomargarine, which seem so elaborate in many of the States and yet apparently so little obeyed, were added to by a strict enactment which prohibited the manufacture or sale of any imitation of genuine butter except under such conditions as would inform the purchaser of the real character of the article. The penalty for disobedience was a fine varying from $100 to $500, or imprisonment not to exceed one year.

All packages of oleomargarine or butterine must be plainly marked with letters an inch long and a placard must be conspicuously posted in the store stating "Oleomargarine sold here."

All pedlers were required to have wagons marked, "Licensed to sell oleomargarine."

Hotels, restaurants, and lunch-counters were required to have placards informing their guests that oleomargarine was used.

Three members of the State Board of Agriculture were organized as a Dairy Bureau and the special enforcement of the law was given to it.

The warfare against the gypsy moth was continued, and the State Board of Agriculture was ordered to provide and carry into execution all reasonable measures for the extermination of the pest. The zeal of the crusade was evinced by an appropriation of $50,000 to make it effective.

The State Board of Agriculture was also authorized to investigate the best method of protecting persons against the dangers arising from the presence of tuberculosis in the food-products of cattle, and $2,500 was appropriated for this purpose.

The sweating system of making ready-made clothing was the subject of a vigorous enactment, and the inspectors of district police were directed to examine the tenement-houses where such garments were made, and the garments themselves, to see if they were cleanly and free from vermin and every matter of an infectious or contagious nature. If evidence of infectious disease was found the State Board of Health was to be at once notified and such action taken as the circumstances required.

Goods made in other States under similar unhealthy conditions and shipped to Massachusetts were to be examined.

The following appropriations for permanent improvements in public institutions were made: For enlarging the State Lunatic Asylum at Northampton, $30,000; for new male insane asylum at the Tewksbury Almshouse, $10,000; for the Massachusetts Homœopathic Hospital at Boston, for the erection and furnishing of new buildings, $60,000.

Michigan.—In Michigan a statute regulating dentistry was enacted which amends in a number of particulars the previous statute. Section 1 of the old law was amended so as to make it unlawful for anyone to practise unless he shall have received a diploma from a college with a course of instruction and practice fully equal or equivalent to that of the College of Dental Surgery of the University of Michigan. Students were allowed to assist in dental offices and in the College of Dental Surgery of the University, under the immediate supervision of the legal proprietors and the professors, but they could not assume charge of an office. Those persons now in practice who are not registered are directed to furnish the facts of graduation, etc., by affidavit, and all persons found qualified will receive certificates on payment of $3. The fee for a regular examination for registration in other cases was fixed at $10.

An act was passed permitting the organization of corporations for the acquisition and dissemination of knowledge pertaining to veterinary medicine and surgery, and for the elevation of the standing of professional education, and the association of members of the veterinary profession for mutual recognition, advancement, and fellowship. Any nine persons in actual practice who have received the degree of Doctor of Veterinary Medicine and Surgery from any medical school or college can become incorporators. The qualifications for membership consist of a reputable practice in Michigan as a veterinarian for two years, with at least one year's study in the office of a veterinarian, or one college year in a reputable veterinary college, and a compliance with the rules of the association.

The term for which such corporations can exist is thirty years, and they are entitled to hold property to the extent of $10,000.

No person affected with small-pox, diphtheria, or scarlet fever was allowed to enter any public place or conveyance, or in any way subject another person to danger of contracting disease. The same prohibition was made against the exposure of any child or irresponsible person suffering from contagious disease.

The penalty for a violation was a fine from $25 to $1,000, or imprisonment from twenty to ninety days.

The use of oleomargarine or butterine in any public institution was prohibited, and any warden, superintendent, or official who should knowingly violate the law was liable to a fine of $100 and costs, or imprisonment for ninety days, or both.

The Central Board of Control of State Institutions was established, and to it was given the charge of the State

Public School at Coldwater, the Michigan School for the Blind at Lansing, and the Michigan School for the Deaf at Flint. The Board was to consist of four members and the Governor *ex officio*.

The following appropriations for improvements were made: To the Eastern Michigan Asylum at Pontiac, $25,000, for the purchase of fifty acres of land and the erection of a cottage; to the Michigan Asylum for Insane Criminals, $25,000 for the erection and furnishing of a building for seventy-five male patients.

Minnesota.—In this State a law was passed regulating the practice of midwifery. All persons hereafter beginning practice, if graduates in midwifery, must present their diplomas to the State Medical Examining Board. If found genuine, a license for one year was to be issued on payment of $1.

If the applicant is not a graduate the Board must have an examination, for which a fee of $2 is to be paid.

Persons now in practice must present proof of such fact to the State Board and be registered. The State Board can revoke or refuse licenses for unprofessional or dishonorable conduct, or for neglect to make proper return to the health authorities about births. The law does not apply to physicians or surgeons, or to students of medicine, or to gratuitous services in cases of emergency.

The penalty for practising without a license is a fine of from $10 to $50, or imprisonment for a period from ten to thirty days.

Quite an elaborate law in regard to the use of oleomargarine was enacted. All imitations of butter were obliged to be colored a bright pink, and all articles manufactured or sold as substitutes for lard were to be branded in heavy letters, "Lard Substitute," and the names of the ingredients given. Hotels using the substitute must print on the bills of fare, "This food is prepared with lard substitute," or "adulterated lard," and if no bills of fare are provided, a card giving the information must be conspicuously posted. The Dairy Commissioner was directed to enforce the law, and was given authority to enter all places of business, factories, etc.

Violations of the law were declared to be misdemeanors, with a fine not to exceed $100, and imprisonment not to exceed ninety days.

The Pharmacy Law was amended in a number of particulars. To entitle a person to be registered he must be twenty-one years of age, and be graduate in pharmacy or medicine, or else have had four years' practical experience and have sustained a satisfactory examination before the State Board of Pharmacy, or be a registered assistant at the time of the passage of the act.

An assistant must be at least eighteen years of age and have had two years' experience. The fees for certificates are $2, and for examinations $5.

The penalty for compounding drugs, or allowing it to be done, without a license, is $50; but the law does not interfere with the regular practice of a physician, or with the making and vending of proprietary medicines, or with the sale by general retail dealers of alum, blue vitriol, borax, castor-oil, epsom salts, licorice, logwood, saltpetre, water of ammonia, and Paris green labelled "Poison." The penalty for not affixing the "poison" label to dangerous drugs is $5.

The law of 1889 relative to the sale of poisons was amended to read as follows: "Provided that the provisions of this section shall not apply when the sale is made upon the written prescription or order of some practising physician."

The charters of a number of cities contained provisions for the appointment of a city physician who should furnish medical and surgical attendance to such poor as he may be required to attend by the proper authorities. Health officers were also provided for.

The following appropriations were made for permanent improvements and for buildings, etc.: St. Peter's Hospital for Insane, $12,500; Fergus Falls Hospital for Insane, $138,000; Minnesota Institution for Defectives, $75,000; Rochester Hospital for Insane, $30,000; Minneapolis City Hospital, $25,000.

Missouri.—In this State there was little legislation of interest to the profession.

The duties of veterinary protection were transferred from the State Agricultural College to the State Board of Agriculture, and the salary of the State Veterinary Surgeon was placed at $2,500.

A law was passed forbidding the sale or giving away of the carcasses of swine, sheep, cattle, etc., dying of contagious diseases, and the owners must bury, burn, or remove them to a place remote from public roads.

Any person editing, publishing, or disseminating any newspaper, magazine, etc., principally devoted to scandals, lechery, intrigues, etc., is guilty of a felony and may be punished by imprisonment not to exceed five years.

A good law for the safety and health of employees was passed, and all cities of five thousand inhabitants and upward were directed to appoint inspectors to examine all factories employing over ten persons.

It was provided that no minor or woman should clean gearing or machinery in motion, that hatchways should be protected, fire-escapes furnished, doors be made to open outward, and that seats should be furnished in factories and mercantile establishments for females when not obliged to be on their feet.

The inspectors were given authority to order changes made in thirty days if anything was found to be unhealthy.

An appropriation was made of $18,000 for new buildings at the Lunatic Asylum at Fulton, and of $15,000 for a hospital building at the St. Joseph Lunatic Asylum.

Montana.—The bad plan of farming out the insane was adopted in this State, and a Board of Commissioners appointed to carry it into effect. The Board was to consist of the Governor, Secretary of State, and Attorney-General. It was directed that there should be advertisements inserted in six papers for proposals for the custody, maintenance, and treatment of the insane. The successful bidder was to give a bond for $50,000, and the contract was not to be longer than three years. The contract was to require a secure and suitable building for the safe-keeping, care, and treatment of insane persons, and the management was to be according to rules adopted by the Board.

A State Board of Pardons was established, consisting of the Secretary of State, the Attorney-General, and the State Auditor. Its duties were to consider any communications received from the Governor stating that he had granted a pardon absolute or conditional, or had remitted a fine or forfeiture. Upon receipt of any such communication the Board was to publish notice of a public hearing, at which those in favor of, or opposed to, the granting of the pardon could be heard. Within twenty days after the hearing a decision was to be given and communicated to the Governor.

A law was passed making it unlawful to sell or give to any child under sixteen years of age any lewd picture, book, paper, etc. It was also declared unlawful to exhibit any such picture or book in presence of a child. The offence was made a misdemeanor, with a fine not to exceed $300, or imprisonment not to exceed six months, or both.

An appropriation of $80,000 was made for the care, custody, maintenance, and treatment of the insane; one of $7,000 for the education and transportation of deaf-mutes, feeble minded and blind children, and of $4,000 for the salary, office, and travelling expenses of the State Veterinary Surgeon.

Nebraska.—Nebraska was one of the few States enacting new and elaborate statutes regulating the practice of medicine. A State Board of Health was established, consisting of the Governor, Attorney-General, and Superintendent of Public Instruction, with four Secretaries, two from the Allopathic School, one from the Homœopathic, and one from the Eclectic.

It was declared to be unlawful to practise without a

certificate, and no certificate could be issued to a person who was not a graduate of a legally chartered medical school or college in good standing, which qualifications were to be determined by the Board.

Another section defined the term "medical school or college in good standing" as follows: "A medical school or college requiring a preliminary examination for admission to its course of study, and which requires as requisite for the granting of the degree of M.D. attendance on at least three courses of lectures of six months each, no two of said courses to be held within one year, and having a full faculty of professors in all the different branches of medical education, to wit, anatomy, physiology, chemistry, toxicology, pathology, hygiene, materia medica, therapeutics, obstetrics, gynecology, principles and practice of medicine and surgery, and clinical instruction in the last two named." It was provided, however, that the three-year clause did not apply to diplomas granted before July, 1891.

If, on examination of the diploma, it was found to be regular and to qualify the holder, as above stated, a certificate was to be issued, which was required to be filed in the office of the county clerk of the county where the practitioner resided.

Physicians in practice at the time of the passage of the act were required to present them within six months, and if genuine a certificate must be issued.

Certificates could be refused to persons guilty of unprofessional or dishonorable conduct, and could be revoked.

No person could recover in any court any sum of money for professional services unless he has complied with the provisions of the law.

Any unqualified person who shall engage in the practice of medicine, surgery, or obstetrics is guilty of a misdemeanor, and can be fined in a sum not less than $50, and not more than $300, together with costs.

Any person shall be regarded as practising medicine, within the meaning of the act, who shall profess to heal or prescribe for, or otherwise treat, any physical or mental ailment of another. But nothing was to be considered as prohibiting gratuitous services in cases of emergency, and the law does not apply to commissioned surgeons in the United States Army or Navy, nor to nurses in their legitimate occupation, nor to the administration of ordinary household remedies.

Any itinerant vendors of drugs, nostrums, ointment, etc., were guilty of a misdemeanor, and could be fined $100, or imprisoned for three months, or punished in both ways.

A law was passed authorizing municipal corporations situated on streams liable to overflow from natural causes, or obstructed by dams, to include the land within three miles of the city limits in a sanitary district, and organize a Board of Trustees with power to supervise the drainage.

An appropriation of $25,000 was made for the erection of buildings for the Nebraska Institution for Feebleminded Youth, near Beatrice, and one of $75,000 for the erection and furnishing of two wings to the Hospital for the Incurable Insane at Hastings.

(To be continued.)

A Cruel Fling at the Medical Profession.—There are fifty-four errors in the Latin of an Eldridge Street quack's diploma, and the only wonder is how the regular physicians were able to detect them.—*Evening Sun.*

Cholera Among Sharks.—An Indian journal states that an epidemic of cholera broke out a short time ago among the sharks which infest the Indian Ocean. The bodies of seventeen British seamen, who had died of cholera in the harbor of Bombay, on the hospital ship, were sewn up in weighted canvas bags, taken out to sea, and cast overboard. It is believed that the sharks feasted upon the remains of the dead seamen, and thus became infected.

RACIAL IMMUNITY AND INOCULATION, AND SECULAR RESTRICTION OF CERTAIN DISEASES TO PARTICULAR LOCALITIES BEFORE COMMERCE DISSEMINATED THEM.[1]

By ALBERT S. ASHMEAD, M.D.,

NEW YORK.

The subject of racial immunity and inoculation, and my attempt to transfer the immunity of the Japanese from scarlet fever to the Caucasian, has been honored by the interest of Professor Stillé. In a letter to me the professor suggests an explanation of the absence of the disease from Japan, which seems to me, in spite of a theory in which I still believe, very worthy of consideration. "Japan," says he, "has until very recently been segregated from other countries, and a similar segregation appears to be the reason why the eruptive diseases of Arabia and the farther Orient were unknown in Greece and Rome, and indeed in nearly all of Europe, until the time of the Crusades. Measles and scarlet fever were often confounded, but neither appeared in Europe until the period above mentioned."

"The subject," he says further, "is interesting. The secular restriction of certain diseases to particular localities before commerce disseminated them, may be largely illustrated, besides the instances I mentioned, by syphilis, tubercular leprosy, and cholera."

The subject seems to me to be of such importance for Japan that I shall bring to some extent before the medical profession of that country, through the *Sei-I-Kwai*, the exchange of ideas which has taken place between that eminent authority and myself. I give, therefore, a letter which I wrote to Professor Stillé, and his reply to it:

(Copy.)

"Dear Professor Stillé: Your suggestion as to the secular restriction of certain diseases to particular localities before commerce disseminated them, and the instances you gave, namely, syphilis, leprosy, and cholera, as well as the disease which occupies us at this moment, has opened to me a large field of reflection and work. You have in your last letter compared Japanese immunity from scarlet fever to the immunity of Europe from the same disease before communication with the Orient. I have thought that this order of ideas might be applied to the three other diseases I have mentioned above. There are certainly in their Japanese history phenomena which militate powerfully in favor of your theory, if it is a theory. Syphilis is said to have been introduced into that country in the seventh century, from India, along with Buddhism. Since that time the race seems to have acquired gradually a remarkable power of resistance, due evidently to a secular series of inoculations. The mildness of the type it shows there has always been since the Dutch invasion, that is for three centuries, an object of surprise for the foreigners. Inoculated into the European it breaks out under the most virulent form which the disease can take. It appears, then, that the four centuries during which the scourge has been known in Europe could not do the same work of attenuation which was performed by thirteen syphilitic centuries in Japan.

"As to leprosy, I have strong reasons for believing that it was brought to Japan even before Buddhism. The Japanese bore a prominent part as a nation in the wars of the Indian princes in the Malay peninsula; this brought them in contact with the Arabs, who had gained a foothold in China before the sixth century. They went in their company to India and Africa, and thus leprosy, I have no doubt, voyaged to their shores, as in an opposite direction it had travelled to Europe. Here, of course, the fact is not to be left out of sight that the Japanese are a negritoid race, and, therefore, peculiarly susceptible of leprous infection.

"I come now to cholera. There never were more than six epidemics of cholera in Japan: the first in 1822,

[1] Communicated to the Sei-I-Kwai.

the last in 1890. According to the latest reports of the Sanitary Bureau, published in the *Sei I-Kwai* (*Medical Journal*), February, 1891, each and every one of these epidemics was imported by European ships. You see that in this disease, as well as in the others, the analogy holds good.

"I now return to our subject, scarlet fever. In Hirsch,[1] to whom you have referred me, I found a fact which is contradictory to those I have just mentioned in relation to Japan. 'As to the native habitats of scarlet fever, we can only affirm that the endemic area of scarlet fever is a limited one, that at many parts of the globe the disease has never occurred except when imported, that it has been able, indeed, to exist in those countries for a longer or shorter period, but has died out in the end; and if it has reappeared, it has always been necessary to assume a fresh introduction of the morbid poison. The reason why the continents of Asia and Africa have remained hitherto almost free from the sickness, *notwithstanding many importations of it* (italics are mine), does not admit of being explained.'

"I find that Quatrefages, Pruner Bey, and others, while they are on my side with a vengeance, in one respect, differ much from my views in another. Negritoid-Polynesian races are not susceptible of scarlet fever, according to these writers. On the other hand, the same authorities set their faces against any admission of racial pathology. Dr. Drysdale (*British Medical Journal*) states positively that scarlet fever will not flourish in Hindostan, and that it has always died out speedily when isolation was used. I say that neither will it flourish in Japan, and there also would entirely disappear if isolation was made use of. Why, the race was in contact with the Arabs and with India as far back as the sixth century. If Europe caught it from the farther Orient, why have not they taken it? Even more than this: the high nobility of Japan is a white Indonesian race, the result of a crossing of the 'farther Orient' white blood with a negritoid-Malay element. This fusion took place in the most natural manner. During their long intercourse with the Arab civilization they fell, as a matter of course, more or less under the influence of the Islam, and must, for a long time, have sat at the feet of the learned Mohammedan doctors. For the Islam had, at that time, not only a power due to its arms, but an immense prestige due to its arts and sciences, which has hardly been equalled to this day.

"That the disease cannot originate in Japan, but must of necessity, if it appears there at all, be introduced from the outside, is the opinon of the same Hirsch. For, says he, 'the well-founded presumption of the organic nature of the virus of scarlet fever excludes the idea of an autochthonous pathogenesis; the disease never arises but in consequence of a conveyance of the specific poison, and the spread of the sickness is dependent on the fact that the virus, reproduced in the sick person, and eliminated by him, forms new foci of infection."

"Even admitting that the few cases of scarlet fever which are on record in Japan are the first signs of a pathologic revolution similar to that which occurred in Europe in the middle ages, there is one thing which deprives this alarming portent of much of its sinister significance. It is this: all observers without exception, for instance, Takaki, Baelz, and others, declare that there is in the Japanese a peculiar resisting power to scarlet infection. This must be of great comfort to such Japanese as may have felt a little alarmed during the latter times; the consciousness of their powers of resistance will at least take the sting out of their fears.

"Yours very sincerely,

"ALBERT S. ASHMEAD.

"To PROFESSOR ALFRED STILLÉ, M.D., LL.D.,

Emeritus Professor of Theory and Practice of Medicine, University of Pennsylvania."

[1] Geographical and Historical Treatise, Sydenham Society Edition, London.

(Reply.)

"DEAR DOCTOR ASHMEAD: . . . . . The subject that interests you just now was one that always interested me during my active professional life, especially as a teacher of the Theory and Practice of Medicine. The difficulties that environ it are very many and great. Without going into detail, I will only refer to one. There was a time when the contagiousness of scarlet fever was generally denied. Professor Chapman, who held the Chair of Practice in the University of Pennsylvania when I was a student of medicine (1833–36), affirmed positively that it was not contagious; and for years afterward the matter remained undecided. There were many who affirmed it to be so slight a disease that they had never met with a fatal case of it. It is plain, therefore, that one cannot reach an absolute conclusion, in regard to this and similar questions, without he embraces in his survey a very wide field both in time and space.

"The greater or less immunity of different races to particular diseases is hardly susceptible of explanation, and as little is the mortality they suffer from them. The deadly effects of cholera and small-pox and syphilis in our aborigines are well known, and I remember the fearful ravages of measles among the colored troops during our Civil War. You know, also, that syphilis, when first introduced, was epidemic, and ravaged every rank from the dunghill to the palace, and yet it has now become both attenuated and restricted. Tubercular leprosy has a nearly analogous history.

. . . . . .

"Thanking you, etc., I remain,

"Very sincerely yours,

"ALFRED STILLÉ.

"To DR. ALBERT S. ASHMEAD."

It appears thus that the disease (scarlet fever) travelled from Arabia and the farther Orient to Europe after the Crusades, and that in America, as late as 1836, its contagiousness was absolutely denied; it had appeared in this continent about the year 1735.[1] Dr. Nott, in his essay on "Variability in the Types of Disease,"[2] in speaking of scarlet fever in America, says: "Scarlet fever is an imported and acclimatized disease. Small-pox, scarlet fever, and other imported diseases have preserved among us the same character and habits they brought from Asia, like many of their animals, plants, and even insects.

"Small-pox was unknown in Europe for many centuries after the Christian era, though common in China long before. Scarlet fever is of still later date, in Europe, and was so rare in the United States that *Dr. Rush, about the beginning of the present century, makes the remark that no physician here would be likely to see it more than once in a lifetime.*" (Italics are mine.)

This same disease, in which the profession would scarcely believe at the beginning of the present century, is now endemic in every large town of this country, and visits the smaller places in the form of epidemics. It attacks with impartiality every fraction of the Caucasian race, and spares almost entirely the Ethiopian. The latter seems to be protected by the nature of his skin. Professor Tucker, in an article entitled "Influence of Race upon the Type and Treatment of Disease,"[3] comparing the Negro and the Caucasian, says: "The depuratory action of the skin is increased in the negro; perspir tion is greater and different in properties in the negro. Caucasians removing from temperate to warm latitudes have their function of skin first stimulated, then the liver, bowels, kidneys, and lungs; hence liver diseases, diarrhœas, and dysenteries result. In negroes removing from a tropical to a temperate zone, the same organs suffer, because their skin does not perform its function. Black absorbs more heat, while white reflects. The negro ab-

[1] In New England. It had appeared in London in 1689, and in Spain in 1610.

[2] MEDICAL RECORD, 1871.

[3] Savannah Medical Journal, 1861.

sorbs more heat, hence increase of skin action. In the acclimation of Europeans in India diseases of the internal organs are common. If they survive these attacks they become acclimatized, but it is at the expense of their fair complexion, for they assume a darker hue of skin and entirely lose all trace of their Caucasian color. The skin is the main physiological difference between the white and the negro. Residence in the South will not effectually protect the subject against yellow fever, nor are even those who have been born there fully protected. This seems to be a disease pre-eminently opposed to the white race. Every change of residence may require a fresh acclimation."

He quotes Dr. S. H. Dickson's letter to Dr. Nott: "The Anglo-Saxon race can never become acclimated against the impress of periodical or malarious fevers. An attack of yellow fever acclimates him so far as it is concerned, but does not in other respects against malarious influences. It is my full belief that negroes become insusceptible of the impression of the cause of periodical, or what we call malarious, fever."

We have, then, here, a race similarly situated as to scarlet fever with the Japanese, and the immunity seems to be founded in the race itself; that is, in one of its peculiarities, the nature of the skin. Now, it is my opinion that the Japanese also, from the same cause, enjoy their exemption. It is well known, now that the customs of the Japanese are so generally discussed, that they have made a secular experiment upon their own skin, by their remarkable customs of hot bathing and hot-tea drinking; and should it be wondered at if their skin had acquired properties so pronounced in a certain direction as to become the basis of immunity from a disease against which another race is protected also by the nature of its skin?

Returning now to the general subject of immunity, I shall mention the opinion of Dr. Merrill.[1] This shows how general immunity may be obtained. "There is scarcely room for doubt that perfect immunity against the recurrence of small-pox, and the vaccine disease, may be secured by certain repetitions of either; and it may well be doubted whether these are the only forms of disease of which this fact can be affirmed." "Immunity from measles, scarlatina, whooping-cough, and mumps, is also supposed by many to be secured by single attacks of these diseases, but observation scarcely justifies this doctrine." He speaks of repeated attacks of malarious fevers granting a measure of immunity, and questions "whether the same may not follow attacks of cholera in India." He cites the principle of "partial immunity as illustrated also by the destructive epidemics which prevailed in the middle ages, when twenty million lives are said to have been lost in Europe by black death, and in the single year 1499, thirty thousand people fell victims to the sweating sickness in London. These and other fatal diseases not now known to us prevailed many times in succession, as yellow fever and cholera do in modern times; the lives preserved gained gradually a partial immunity from subsequent attacks, as in our fevers of the present time."

On the question of individual immunity Dr. D. Francis Condie[2] speaks of persons who always escape unhealthy influences, or who may handle poison vine (Rhus Radicans) with impunity. He mentions further, from his note-book, persons in which primary vaccination was performed with pure, recent, active matter; but without the operation being followed by any other result than a slight soreness at the part where the virus was introduced, and which was entirely gone in a day or two. The same thing occurred after a second and a third insertion of vaccine matter that had been used successfully in other cases; finally, inoculation with variolous matter was resorted to, and with the same negative result. In three of the cases the patients, after the lapse of six, eight, and fourteen years respectively, were exposed to variolous infection during severe epidemics of small-pox, and all contracted the disease, but in a mild and greatly modified form. So that he argues that "individual immunity resulting from vaccination varies."

One of the most striking instances of racial immunity is that of the Jews. They owe it to their lasting allegiance to the sanitary code of their first legislator, and it is well known how purely their descent has been preserved.

French observers say that the life of the Jew in France is in advance by twenty years of that of the Christians. Dr. Marsh,[1] in contrasting the purity of the Jewish descent from Abraham, with the Gentiles or Christians from Christ and His followers, who were also Jews but who varied their inheritance by inter-marriage with other races, claims that "the Jews have proved themselves of the purest and finest type of the Caucasian race." In referring to circumcision as a factor in this continuance of purity, he says that the Turks, Copts, and Ethiopians, and all other Christian nations inhabiting Egypt, universally practise it. It is enforced by the Koran, not only on the burly, lusty boy, but equally alike on the most delicate and tender maiden. Regular professionals, who perform the operation, traverse the streets and place themselves in prominent places, and loudly vociferate in Coptic or Arabian language, "Who wants to be cut?" Circumcision as a sanitary and religious rite, with its correlative hygienic, dietetic, and therapeutic accompaniments, frequent ablutions, purifications, abstinence from hog meat and other unclean things, were in practice by the ancient Egyptians, and formed the most prominent part of a fundamental religion far back in the confines and first development of the germ of their ancient civilization, and when the ancestors of the Abrahamics were wandering nomads in Mesopotamia, on the other side of the river Euphrates. It never became a Hebrew institution until friendly relations had been established between Abraham and the Egyptians. Then it was initiated by the circumcision of Abraham and Isaac by the express command of God. In ancient Egypt, religion and medicine were blended in the same profession, its rules and practices enforced by an order of priests, to whose dictum not only the most abject slave, the lowest peasant, but the highest potentate—Pharaoh himself—must bow, even to his daily bill of fare; its programme regularly furnished by his priest and physician, from which he dare not deviate. Circumcision was introduced among the ancient Egyptians as a sacred rite of the gravest import.

Moses himself was an Egyptian priest, educated in all the deep research and arts of the Chaldean Magi and mystic philosophic development of Egyptian and Oriental science, and all that was then known of the science of medicine in its general principles, and its application of details for the preservation of health and prevention of disease.

He concludes: "Statistics and well-established authority concede that Jews enjoy a wonderful immunity not only from consumption but a large portion of diseases that assail the health and life of the human race."

A racial immunity not inferior to that of the Jews has been observed in the pure-blooded black race. They outnumber the white in centenarians. The statistics of the United States census of 1830 show that the chances of attaining this great longevity were forty times as great with the free colored as with the white, and with the slaves eleven times as great. In 1840 the disproportion was somewhat diminished, as there were nine centenarians among the slaves and thirty among the freemen to one white. "This greater number of the colored race at the age of a hundred," says Dr. Forry,[2] "is attributable to a mere tenacity of life, which seems unsusceptible of explanation."

[1] Immunity from Disease, American Practitioner, 1872.
[2] On Immunity from the Action of Morbific Agents, American Journal of the Medical Sciences, 1871.

[1] Have the Jews any Immunity from Certain Diseases? Medical and Surgical Reporter, 1874.
[2] New York Journal of Medicine, 1884.

In the "Report on the Sanitary Condition of the Laboring Population of Great Britain" we read: "Some constitutions are found to resist vaccine matter. Here and there constitutions appear which resist all the noxious influences by which they are surrounded and attain extreme old age. Not infrequently we find the existence of these solitary individuals referred to as proofs of the general salubrity of the very circumstances under which generations have fallen and been buried around them. The greatest proportion of centenarians are of the laboring classes; and instances have appeared amidst the crowded populations in some of the worst neighborhoods of London where the average duration of life is the lowest." "All writers," says Dr. Forry, "note the extraordinary fact that centenarians are generally, if not universally, found in that class of society which gives the lowest mean duration of life."

It is evident that we have here people surviving in spite of the most unfavorable circumstances, and we naturally conclude from this that they have been preserved by a special immunity belonging to their race.

Wherever there is a change in the action of a disease, a corresponding change is observed in the subject himself; it is the latter that changes, not the disease. This has been noted by the illustrious Graves in his "Clinical Medicine." Sydenham, too, the greatest of modern physicians, and some of the master-minds of antiquity, refer to the same fact. Professor Alison of Edinburgh, also, in two clinical lectures on pleurisy and pneumonia, entered upon a consideration of the change of inflammatory diseases. Blood-letting, formerly employed with success in our treatment of disease, to-day will not do. The individual resistance is diminished.[1]

Shall we assume that through the bringing together of nations long isolated from each other, through the formation of new races, a new susceptibility is evolved? It would almost seem (though I am by no means prepared to assert the principle) that the simple mixture of two races may be productive of new pathologic tendencies. The Spaniards who established themselves in South America had never had yellow fever, and, to the best of our knowledge, the Indians with whom they mixed had never been visited by it either. The hybrids got it, as if the simple meeting of the two races had generated it like a spark.

Quatrefages remarks that a human race may be unacquainted with one or several diseases, or with certain morbid forms, though at the same time but too apt to contract them. Once attacked it may even develop this disease, which is new to it, in a more violent form than any hitherto known. He also says, however, that ethnological immunity does exist, mentioning elephantiasis in the Indies and Barbadoes, which attacks only natives, creoles, and individuals of mixed blood. Whites of European origin have, as yet, escaped. In Ceylon, too, the same disease attacks only the same classes of people. Hindoos and Europeans, strangers in the island, are exempt from it.

I have been led into these various discussions by the question of scarlet fever, and I wish now to wind up an exposition, which the reader may perhaps deem a little rambling, by an observation which strikes me as, if not practically important yet singularly interesting. While all other diseases seem to become exhausted as the centuries go on, this disease alone increases (in the Caucasian at least), and seems to become rampant with age. At its first appearance in a new field its very individuality as a disease is put in question; the diagnosis between it and measles is obscure; its contagiousness is doubted or denied. But the time always comes when it must be recognized as being undoubtedly infectious, and from only affecting adults it finally allows no exemption to children, excepting the new-born.

[1] An epidemic of influenza may simply mean a general occurrence in the same place of a condition of non-resistance to climatic factors, and not at all the presence of germs.

From my study on the subject, and my attempted inoculations of a Japanese with scarlet-fever germs, I have arrived at the following conclusions:

1. The Japanese have now a relative immunity from scarlet fever.

2. Their race is peculiarly protected by the mixture of the races which have formed the nation.

3. Scarlet fever may introduce itself by intermarriage with susceptible blood. New foci of infection will be found in Caucasian half-breeds.

NOTE.—Perhaps the medical profession of Japan will be interested in the following passage, which I extract from Charles Anglada's "Étude sur les maladies éteintes et les maladies nouvelles"[1] (Paris, 1869). Such as are unacquainted with this excellent book I inform here that it contains a study of the plague of Athens; the Antonine plague; the plagues of the third and sixth centuries; variola; measles; scarlet fever; epidemic gangrene; the black plague of the fourteenth century; the sweating sickness of the fifteenth century; syphilis in the fifteenth century; and cholera in the nineteenth century:

"The historical study of scarlatina begins with a chronological puzzle. At what time has it begun to take its place among human diseases and complete that highly original group of eruptive fevers? We may choose between the two following solutions. Physicians generally do not seek beyond the sixteenth century the first descriptions relating to scarlatina. If we adopt this view, and if we take for granted that they took the disease at its very birth, its date would be a thousand years posterior to that of variola and measles (rougeole). Bateman[2] proposes another version, which, with certain restrictions, seems judicious enough. According to him the ancients knew these three fevers; but owing to the incompleteness of their indications many obscurities remained which were dispelled at the close of the sixth century by the Arabs. The latter demonstrated clearly the existence of these fevers, while still leaving in abeyance many questions as to their individual natures. Their successors, being the too servile slaves of their teachings, continued during more than a thousand years to confound these three diseases into one, of which they were only varieties. Their state of error was protracted to the end of the seventeenth century, and it was only then that more careful observations showed the distinctive characters and independent origins of these exanthems.

"It goes without saying that I leave to Bateman the whole responsibility of his personal belief in the antiquity of these fevers; but I may indorse his opinion without contradicting my own views as to their co-existence as far back as the sixth century. The contemporary apparition of variola and rougeole represents the first symptom of an unaccustomed epidemic constitution, resulting from a concourse of influences unknown as to their nature, but revealed in their effects. The soil was thus prepared for receiving scarlatina, and it may readily be believed that it soon thrived in it. Have I not, in rambling through the writings of the Arabs, met with certain cutaneous efflorescences which seemed by exclusion to be akin to scarlatina itself? It would thus seem that this disease was at that time suspected, seen as through a haze, vaguely delineated. But if we take into account the confusion from which the differential diagnostic of variola and rougeole has with so much difficulty been extricated, we can fully understand how this indecision could have contributed in prolonging indefinitely the incognito of scarlatina, lost, as it were, among the morbillous exanthems. It was only by the dint of numberless observations, which represent the experience of several centuries, that it received at last its nosological baptism. It is by no means proven that it did not at an early period co operate in the epidemics, which were, at the origin, exclusively attributed to variola and rougeole.

[1] Reference kindly furnished me by Professor Stillé.

[2] Abrégé prat. des Malad. de la Peau, Trad. 1820, p. 102.

"Hufeland,[1] no doubt, had lost sight of these precedents, which he ought at least to have taken into account when he asserted that 'Scarlatina is a new disease which began to be observed only in the seventeenth century.' Whichever view may be favored, I am myself deeply convinced that there was not really between the simultaneous apparition of variola and rougeole and the later adjunction of scarlatina that interval of centuries which must be supposed to separate the two events, if we consider only and uncritically the dates set down by the historians of these diseases."

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FIBROUS MAMMARY TUMORS.

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The practical questions which have to be decided concerning tumors of the breast are certainly very puzzling and of great importance. On the one hand there is the danger of allowing malignant tumors to grow beyond control; on the other, there is the possibility of doing needless operations and thus subjecting the patient to unnecessary suffering and discomfort. The tumors in which the connective tissue predominates are among the most perplexing ones—those known under the names: fibroma, fibroadenoma, fibrocystoma, or simply interstitial mastitis. These tumors are so common that most surgeons see many of them every year. The various forms which they take are well illustrated by the following six cases which have recently been treated at the New York Cancer, Roosevelt, and St. Luke's Hospitals, and at the Vanderbilt Clinic. For all but two of them I am indebted to Drs. McBurney, Hartley, and Curtis. The cases are selected because they serve as types. They are not especially uncommon, nor are they of statistical value:

Case I. *Diffuse Cystic Tumors.*—F. C——, a strong unmarried woman, aged thirty-seven, had noticed, four years before, a hard, pea-sized tumor in the margin of her left breast. It remained stationary for one year and then grew slowly. For the last few months it had grown rapidly, and when seen, July, 1890, a lobulated movable tumor occupied nearly the entire breast, with no involvement of surrounding tissues. It was painful on pressure and on movement of the arm. This was removed, and was found to be a fibrocystoma, composed almost entirely of small cysts. At the time of the operation the other breast seemed slightly indurated near its outer margin. Six weeks later this had increased until there were several nodules in the breast. Four months later, in January, 1891, there were more nodules, from the size of a hazelnut to that of a hen's egg. The breast was tender and enlarged, and there was a constant dull pain which at times ran up the arm. There was no adherence to the pectoral muscle and no axillary enlargement. The nipple was not retracted. On removal these were found to to be of the same character as those in the other breast. (See Figure III.)

Case II. *Circumscribed Fibrous Nodules.*—L. W——, a thin, pale, unmarried girl, aged nineteen. For five years a nodule had been growing in the left breast near the outer margin. It had grown from the size of a filbert to that of a pullet's egg. It was hard and freely movable, with no attachment to the underlying tissues nor to the skin, no retraction of the nipple, no axillary enlargement. It was slightly tender and occasionally painful during menstruation. When excised, May 21, 1891, it was found to have a rather indistinct capsule and to be a fibroadenoma. She again was seen January 5, of this year, and then had two similar tumors in the other breast, one the size of a pullet's egg, the other the size of a hickory nut. The first had appeared about July 1st, the other about December 1st. They were excised January 9th. Clinically and pathologically they were similar to the first one. (See Figure IV.)

[1] Manuel de Méd. prat., p. 463. 1838.

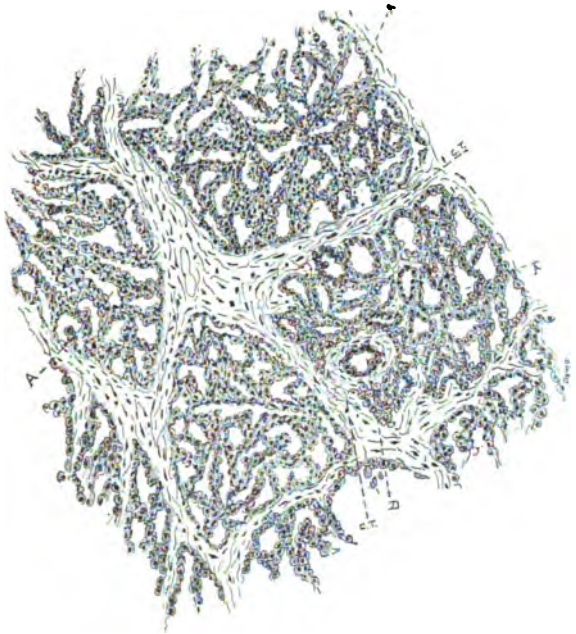
Case III. *Large Cystic Nodules, somewhat Circumscribed.*—E. O——, strong married woman, aged thirty-seven, who had borne a child one year and a half ago, and had nursed her. Four months before operation she began to suffer from pain in her right breast, which had been relieved by supporting it firmly. Both breasts had become hard and knotty, and in the upper inner quadrant of the right one there was a hard, movable tumor as large as a small hen's egg. There was no attachment to the skin, nipple, or underlying tissue. The axillary glands were slightly enlarged. On removal this proved to be a fibrocystoma with firm, fibrous tissue, one large cyst and several small ones, containing translucent fluid. She was seen eighteen months later and had indurated nodules in the breast.

Case IV. *Diffuse Fibrous Tumor with Calcareous Degeneration.*—M. H——, a fairly strong, hard-working married woman, aged forty-three, who had noticed, two years before operation, a small, hard nodule in her right breast which had grown slowly and painlessly until the entire breast was involved. It was enlarged, hard and nodular, and from one of the nodules half an ounce of serous fluid was drawn. Four months previously she had discovered a nodule in the left breast, which had remained nearly stationary. The nipples and skin were normal. There were no axillary enlargements, nor was there any attachment to the pectoral muscles. On removal very small cysts were found in both breasts, much connective tissue and a few calcareous deposits. These tumors must have existed long before they were noticed by the patient.

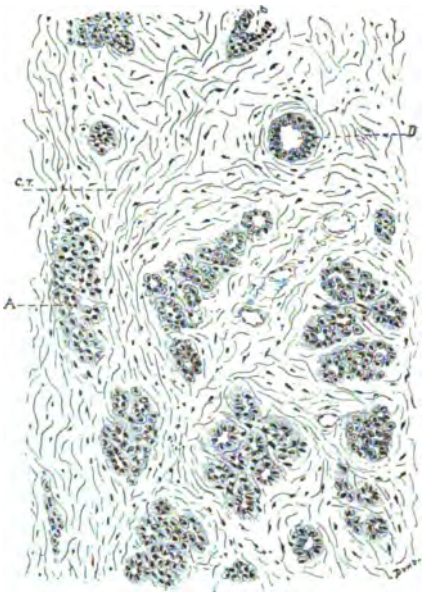
Case V. *Diffuse Interstitial Mastitis, with a few very Small Cysts.*—M. T——, a fairly strong married woman, who had had children and normal lactations, the last one five years ago. Nothing abnormal was noticed in the breasts until one month ago, when she had discovered a small tumor in the right one. This had grown since then without marked pain or tenderness. There was no enlargement of the skin, nipples, or axillary lymph-nodes. When seen, the whole breast was enlarged, hard, and lobulated, and appeared cystic. The other breast showed similar changes, less marked. On removal there was induration through the entire breast with a few very small cysts.

Case VI. *Interstitial Mastitis with the Formation of a Small Abscess.*—M. M——, a healthy married woman, aged forty-six. During her lactations, which had occurred several years before, she had had little milk and only slight enlargement of her breasts. She had never noticed any tumor, but two years ago had a temporary sense of discomfort in her left breast. August 17, 1891, she had a chill, and the next day her breast was hard and painful. This continued until November 5th, when it was excised. The breast then showed general induration, with a hard nodule back of the nipple about as large as a hen's egg, the overlying skin being inflamed and the axillary lymph-nodes enlarged. After removal there was found interstitial mastitis with two small broken-down nodules just below the nipple, one of them a distinct abscess-cavity with necrotic walls.

These cases represent many phases of fibrous growth, from the small circumscribed nodule to the diffuse induration which involves the entire breast. The development of cysts, calcareous degeneration, and the softening and breaking down of the fibrous tissue were all present. Some of the tumors grew fast, some slowly. Yet on microscopical examination we find essentially the same features in all, the prime element being an increase in connective tissue. If we take the normal active and inactive mammæ as standards (see Figs. I. and II.), we notice to what extent this has taken place; the connective tissue increasing greatly—the epithelial elements diminishing in proportion, cysts developing in consequence of the pressure of the connective tissue on the ducts (see Figs. III. and IV.). Virchow[1] describes these changes in two stages: 1. The inflammatory stage, in which the



I.



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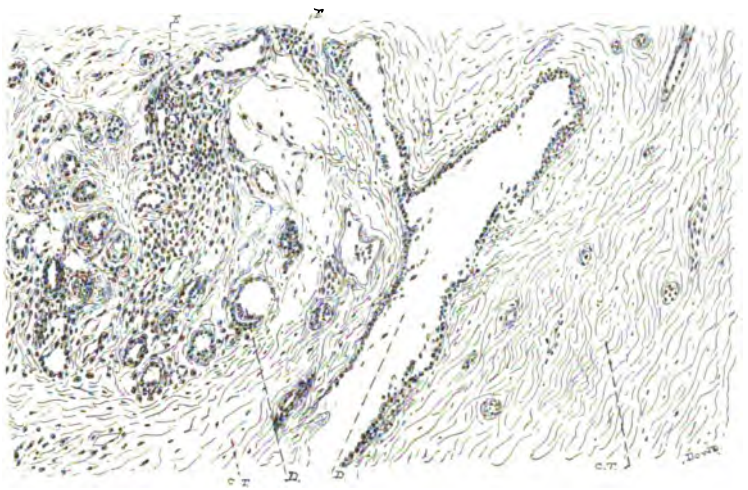

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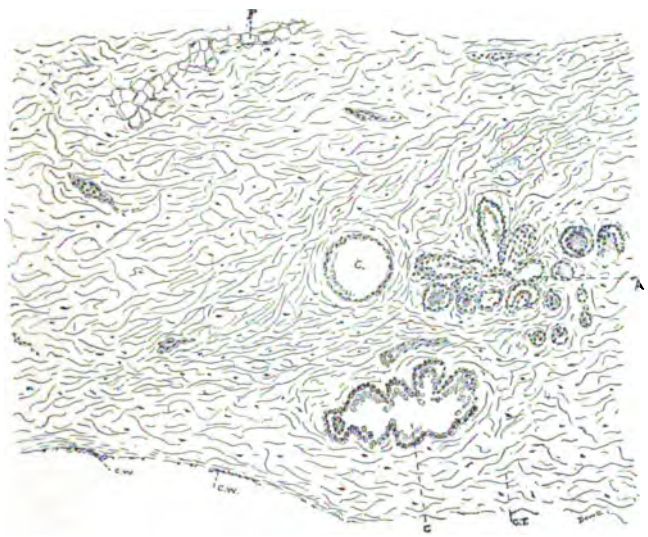

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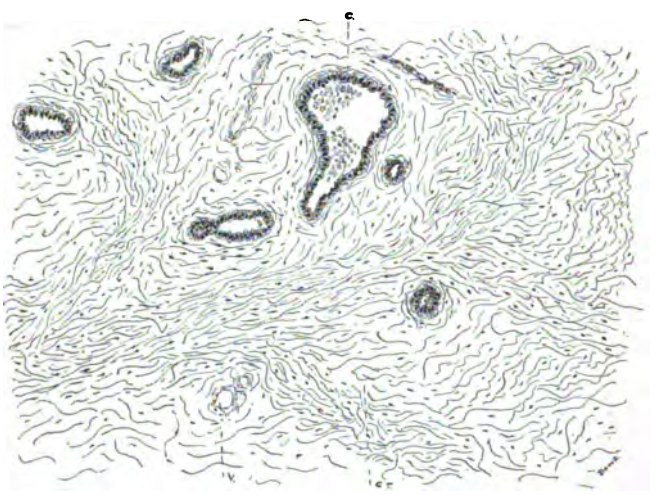

IV.

FIBROUS MAMMARY TUMORS.

Charles N. Dowd, M.D., New York.

I.—ACTIVE NORMAL MAMMARY GLAND. II.—INACTIVE NORMAL MAMMARY GLAND.

III.—FIBRO-ADENOMA OF BREAST (from Case I.). IV.—FIBRO-CYSTOMA (from Case II.).

A, Acini. *D*, Ducts. *C T*, Connective Tissue. *C W*, Cyst-Wall. *C*, Cysts. *V*, Blood-Vessels.

V.—CARCINOMA GROWING IN A FIBROUS MAMMARY TUMOR (Interstitial Mastitis).

The dilated ducts and the connective tissue indicate interstitial mastitis. In other parts of the tumor there are cysts similar to those in Plate III. The wildly growing epithelial cells *E* indicate carcinoma.

connective tissue is infiltrated with small round cells, and in which there may be a slight increase in the epithelial structures. 2. The stage in which these cells change, dense fibrous tissue forming, somewhat like that of a cicatrix. Hence there is shrinkage of tissue and pressure on the ducts and acini and consequent fatty degeneration of their epithelium, much of it becoming absorbed and the acini obliterated. In some cases cysts result from the obstruction of the ducts.

The most noticeable pathological difference in these specimens is that in some the cyst development has gone further than in others.

There was a marked tendency to progression in all. Both breasts had become involved in every case but one.

There are two questions which have to be decided regarding each tumor of this variety which is presented to us: 1. What is it? 2. If not removed, what will it become? As to the first, there are of course the ordinary rules: The benign tumors are likely to occur in younger persons than the malignant ones; they are more often multiple, involving both breasts and leaving the axilla free; painful at menstruation, and often containing cysts from which fluid may be aspirated. Still the difficulties of diagnosis are often very great. König [8] states that the diagnosis between fibroma, sarcoma, myxoma, and circumscribed interstitial mastitis is impossible.

These difficulties in diagnosis apply to all the forms of fibrous tumors. The diffuse ones often resemble scirrhus. The cystic ones are not to be distinguished from sarcoma or even carcinoma, as is illustrated by the following two cases which Erichsen [9] relates:

The first, a woman who had a cystic mammary tumor which had existed for twenty years but had an ulcerated surface. Six months later it had a purgating sarcomatous growth. The second, a patient, fifty-nine years of age, who had a hard tumor the size of a half orange which had existed five years, was freely movable and unconnected with the skin, giving no retraction of nipple and no lancinating pain; on the upper side several large cysts could be felt and seen through the skin. This was found to be a cystic scirrhus. Many features of both of these tumors suggested fibro-cystoma, yet it would have been a bad mistake to leave them alone.

The small circumscribed tumors would ordinarily be considered easier of diagnosis than the other forms. Yet they may be very puzzling. Take the first case here recorded—the one who came to the Vanderbilt Clinic in May with a small nodule in her breast. On what basis could we have stated that it was not sarcoma? We know that many tumors which exist for years as small circumscribed nodules either are sarcomata or afterward become such, *e.g.*, a small round-celled sarcoma of the neck which came into Dr. Hartley's service at the New York Cancer Hospital last September. The patient was thirty-eight years of age. When ten years of age he had noticed a hard, insensitive, pea-sized tumor in his neck just below his right submaxillary gland. This showed no change for fifteen years, when it became as large as a hickory-nut, but showed no other change for ten more years, when it began to grow rapidly. It was excised twice during the following three years, and when seen in September consisted of two lobes, each as large as a hen's egg. For twenty-five years this had been almost quiescent, a small and apparently harmless nodule, yet after that, it assumed such proportions as to threaten the patient's life. De Merinac [10] records a case where a hard, walnut-sized nodule, which followed a blow, remained stationary for fifteen years, and then in three months grew to the size of a double fist. It was removed and found to be a spindle-celled cystosarcoma.

Poulsen [4] collected the statistics of 33 cases of sarcoma of the breast which occurred in Copenhagen. Of the 33 ten had existed for five years or more and eleven others from one to three years. He states that several of these sarcomata had remained stationary for long periods. In one case, at the age of sixteen, a tumor, the size of a small walnut, had appeared inside the nipple after a blow. This showed no change for thirty-six years, excepting that it was slightly painful at menstruation. Four years after menstruation, however, it began to grow and was removed when it had reached the size of an orange. Thirty-six and four-tenths per cent. of those patients who recovered from the operation died from metastasis or recurrence. Schmidt [6] reported 15 cases of sarcoma of the breast from Professor Czerny's clinic, 8 of which had existed one and one-half years or more. Among them there was a myxosarcoma which for eighteen years had remained the size of a hazel-nut and then during two years had grown rapidly. Another had begun seven years previously as a small, movable nodule which had shown little tendency to grow but had increased slightly during lactations; during the six months previous to removal it had grown rapidly. Six of the 15 patients (forty per cent.) died from the effects of the sarcoma. The mortality, however, was in those patients in whom the tumor was recent and rapidly growing. We cannot state whether these tumors were sarcomata from the beginning or whether they began as fibromata. There is certainly a strong probability that some of them were sarcomata from the start.

This suggests the other question. Granted that a tumor is fibrous, may it later become malignant? *A priori* there are many things which would lead us to think that it may. A malignant tumor is caused by some influence which destroys the balance of growth, and causes certain elements to grow uncontrolled. This influence, whatever it is, acts especially where there is a disturbing factor, *e.g.*, cancer of the lip, tongue, and gum are often associated with the irritation of a pipe, or a carious or projecting tooth. Cancer of the breast and uterus frequently come with the atrophic changes which accompany the menopause. Now, a fibrous tumor is certainly a disturbing factor, and moreover, in the tumor itself we have a tendency to uncontrolled growth. If this tendency extends in the connective we may expect a sarcoma; if in the epithelium, a carcinoma.

When, however, we look for definite cases of these changes we are balked. When we cut a tumor out and examine it we can only tell what it is. We cannot tell what it would have been had it been left, nor yet what it was when it began. There are, however, many cases which throw light on this question, some where metastasis have occurred in such tumors, others where primary growths have apparently done so. There have recently been two cases in Dr. Hartley's division at the Cancer Hospital which bear on the subject. One where a wen was replaced by an epithelioma, the other where a uterine myoma was partly replaced by a sarcoma. The first, a woman aged sixty-seven, had had several wens in her scalp for ten years. In July, 1891, one of them became tender, and sharp, shooting pains were felt in it. It soon ulcerated and gave forth an offensive discharge. When seen in September this one was as large as a hen's egg, and was ulcerating, painful, and attached to the periosteum cranium. There were six other ordinary wens on the head. On removal, the large one was found to be an epithelioma which had extended down to the periosteum. The others were ordinary wens, as shown by microscopic examination.

The second case was that of a woman who had had symptoms of a uterine myoma for twenty-five years. When she came to the hospital she was suffering from most profuse metrorrhagia, which was not relieved by any of the ordinary measures, and abdominal hysterectomy was performed. After removal of the uterus and its appendages the following condition was found. There was a large ovarian giant-celled sarcoma on the right side. In the uterus there was a large interstitial myoma there were also several small myomatous nodules just below the peritoneal coat. The interstitial myoma was broken down in the middle and extending from the endometrium

into this broken-down area there was much soft sarcomatous matter, similar to the ovarian sarcoma. The inference that the sarcoma had encroached upon the myoma is unavoidable. This, however, was a metastasis rather than an original growth.

Martin [6] states that among 205 corporeal myomata removed by operation, he found 4 encapsulated myomata becoming sarcomatous, 2 of which recurred and caused the death of the patients, respectively, seven weeks and four months after the operations. Doran [7] records the occurrence of a myoma, 2¾ pounds in weight, which was practically an expansion of the fundus of the uterus. In it there were two distinct kinds of cells which he figures: 1. Slender muscle-cells. 2. Shorter, thicker spindle-cells like those of a spindle-celled sarcoma. He considered these cells evidence of sarcoma, and his statement was accepted.

Dr. B. Farquhar Curtis,[8] of this city, records a case where an interstitial mastitis involved a breast and led to the development of cysts, the first nodule having been noticed four and a half months before the removal of the breast. In the mass there was a distinct carcinoma of small size which had apparently begun in the fibrous tissue near one of the cysts. (See Figure V.)

Billroth [16] figures a somewhat similar case, in which a carcinoma grew within an adeno-sarcoma, the tumor recurred as a circinoma.

Schmidt [17] records a cyst-sarcoma of the mamma which contained epithelial pearls.

Oldekop [9] records a case who had received a blow on the breast which caused a blood extravasation. After its resorption a hard nodule remained, which was stationary for fourteen years and then was changed into a carcinoma.

J. Hutchinson, Jr.,[10] records the case of a woman who from girlhood had a small round tumor just beneath the skin of the left breast. It was the size of a cherry, and did not grow larger until she was nearly forty-four years of age, when in two years it increased to a hard mass which was adherent to the skin and involved the axillary lymph-nodes. On microscopical examination this proved to be an adenoma imbedded in a scirrhous carcinoma.

Ponpiniel [11] records a case which is suggestive. A woman, aged fifty, had had a hard, painless, filbert-sized tumor in her left breast for twenty-one years. In March, 1887, an ovarian epithelioma was removed. Three months later the mammary nodule began to be painful, but grew steadily, and after another twelve months was removed and found to be an epithelioma. It recurred twice within two years.

Poulsen [4] records the case of a man who had a mammary carcinoma develop upon a nævus.

These cases indicate that either fibrous tumors sometimes grow into malignant ones, or that they form a favorable ground for the growth of malignant ones. They certainly show us that what are at one time clinically bland tumors, may at a later time be malignant ones, and this, from a practical standpoint, is what we have to consider. The induration which remains after a puerperal mastitis resembles closely the fibrous tumors which we are considering. It would be of interest to know whether they have any etiological relation to carcinoma.

In the cases which Poulsen recorded there were 107 in which inquiry was made concerning previous mastitis. In twenty-eight per cent. of them it had existed.

Oldekop,[9] in 103 patients with carcinoma of the breast, who had borne children, found previous puerperal mastitis recorded in 36, or 34.9 per cent.

Schmidt [5] found a history of previous puerperal mastitis in 24 out of 109 patients who had carcinoma of the breast, and who had borne children.

Schulthess,[12] from studying over four hundred cases recorded by Billroth, Winiwarter, Fischer, Oldekop, Henry, estimates that about twenty-nine per cent. of those who had borne children had had puerperal mastitis.

Schroeder [3] estimated, from over one thousand puerperal cases, that mastitis was present in about six per cent. Hence, if over twenty-five per cent. of the mothers with mammary carcinoma have had puerperal mastitis, and only six per cent. of other mothers, it is fair to believe that the fibrous induration which remains in the breast after puerperal mastitis is an etiological factor in the production of cancer.

There is another argument which bears on the question. If pathologists and clinicians who have given very extended study to the subject believe that the transition from fibrous to malignant tumors occasionally occurs, we must give much weight to this opinion.

Birsch-Hirschfeld [13] states that a transition from fibroma into fibrosarcoma has occasionally been observed. König [2] states definitely the belief that interstitial mastitis changes sometimes into carcinoma, and fibroma into sarcoma which is prone to recurrence and metastases. Delafield and Prudden [14] state that fibromata by metaplasia partially change to form fibrosarcoma.

Klebs [15] states that fibrous mammary tumors are frequently the starting-point of cancer.

Billroth [16] indicates the belief that adeno-fibromata may be considered the early stages of cyst-sarcomata, and records two cases in which nodules which were long indolent later developed into cyst-sarcomata.

Gross [19] quotes Labbe and Coyne, and Duplay as being of the opinion that the metamorphosis of fibroma into sarcoma is so frequent that primary sarcoma of the mamma is rare.

Conclusions.—After reviewing the evidence, the following conclusions would seem to be warranted.

1. It is often impossible to distinguish fibrous mammary tumors from sarcomata or carcinomata.

2. The occurrence of metastatic growths in or about fibrous tumors; the sudden malignant growth of tumors which have existed for years as quiescent nodules, presumably fibrous; the change of wens into epitheliomata; the apparent change of uterine myomata into sarcomata; the apparent etiological relation between puerperal mastitis and cancer; the opinions expressed by high authorities—form a mass of evidence which would lead us to believe that fibrous mammary tumors may occasionally change to malignant ones. This change, however, is probably not very common.

[NOTE.—Owing to an engraver's error the titles of Figures III. and IV. are reversed. The two lines of description at the bottom of the plate-sheet apply to Figure V. only.]

[1] Virchow: Die Krankhaften Geschwülste, vol. i., p. 330.
[2] König: Lehrbuch der speciellen Chirurgie, vol. ii., pp. 75–78.
[3] Erichsen: Science and Art of Surgery, vol. ii., p. 710.
[4] Poulsen: Archiv f. klin. Chirurgie, xlii., p. 593. 1891.
[5] Schmidt: Beiträge zur klin. Chirurgie, iv., p. 40. 1888–89.
[6] Martin: Archiv. für Gynaekologie, xxxii., p. 470. 1888.
[7] Doran: Transactions of the Pathological Society of London, vol. xli. 1890.
[8] Curtis, B. Farquhar: N. Y. MEDICAL RECORD, June 2, 1888.
[9] Oldekop, Dr. Justus: Archiv. für klin. Chirurgie, xxiv., p. 536. 1879.
[10] Hutchinson, J., Jr.: Trans. Path. Soc. London, 1888, p. 319.
[11] Ponpiniel, Dr. Gaston: Annales de Gynécologie, xxxiii., p. 35. 1890.
[12] Schulthess: Beiträge zur klin. Chirurgie, iv., p. 447.
[13] Birsch-Hirschfeld: Lehrbuch der Patholog. Anat.
[14] Delafield & Prudden: Handbook of Pathological Anatomy and Histology. Third Edition, p. 125.
[15] Klebs: Handbuch der Path. Anat., Bd. i., p. 1207.
[16] Billroth: Virchow's Archives, Bd. xviii., p. 78.
[17] Schmidt, Georg. Benno: Archiv. f. Gyn. xxiii., 1884, p. 93.
[18] Billroth: Chirurgische Klinic, 1871–76, p. 261.
[19] Gross, Samuel W.: Tumors of the Mammary Gland, p. 23.
[20] De Marinac: Bulletins de la Soc. Anat. de Paris, lii., p. 428.

Piperazine, the new uric acid solvent, can be employed externally, according to *Notes on New Remedies*, in one-per-cent. solution, applied to gouty joints by means of wet bandages. It may also be injected subcutaneously into the tophi, thus acting directly on the uric acid concretions. Outside the body uric acid gravel is readily dissolved in a one-per-cent. solution at blood-heat.

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DEATHS FROM CHLOROFORM.

DURING the past month the daily press of this city has given publicity to at least two cases of death attributable, or attributed, to chloroform. One occurred during childbirth, and the coroner's autopsy showed a fatty heart.

The other took place in a man of some fifty years, who was being anæsthetized for a finger amputation.

It is not our purpose to discuss here the relative merits of the various anæsthetics, but to call attention to two recent propositions, which seem at once sensible and timely.

The first is an inquiry (*British Medical Journal*, note in *New York Medical Journal*) on a large scale which is to be made in the hospitals throughout Great Britain during the year 1892 regarding anæsthetics. "Eminent surgeons, anæsthetists, and general practitioners will contribute their clinical experiences, as supplemental to the conflicting results obtained by the experimental workers. The research will be made under the auspices of the British Medical Association. An influential and fairly constituted committee has charge of the plan of the inquiry, and record books have been prepared for the use of those who are willing to co-operate. These books have been carefully drawn up so as to secure uniformity on the part of the reporters, and they contain full instructions." Mr. Jonathan Hutchinson heads the committee, which contains the names of many of the best known men among the English surgeons.

A somewhat similar proposition comes from Braatz, one of the assistants at the Heidelberg Clinic, who, while reviewing a paper by Djaknow, on the "Explanation of the Clinical Evidences Accompanying Death from Chloroform,"[1] calls attention to the fact that, no less than seven years ago,[2] he proposed that permanent Chloroform Committees be instituted, whose duty it should be to carefully examine into and report upon all deaths attributable to an anæsthetic. It goes without saying, that these committees should be made up of men prominent in their own communities. They would report at stated intervals, and their proceedings could find publication in a designated periodical.

Such a work of investigation could, in this country, be very well undertaken by committees appointed by such a representative body as the American Surgical Association.

There could be a sub-committee composed of, let us say, three men in each centre of considerable size, whose duty it should be to make careful scientific investigation of each death attributed to an anæsthetic, occurring in its territory.

These sub-committees could in turn report to the central committee, which latter body should, as said, publish its conclusions at stated intervals.

[1] Centralblatt für Chirurgie, 1891, p. 894.

[2] St. Petersburger Med. Wochenschrift, 1884.

TO PREVENT ALIEN PHYSICIANS PRACTISING IN NEW YORK.

SENATOR MCCARREN, of Brooklyn, has introduced into the Legislature of this State a bill to regulate the employment of physicians by corporations having the care, maintenance, and custody of children or invalids. The bill is as follows:

"SECTION 1. It shall not be lawful for any corporation organized under the laws of this State, and having the care, maintenance, or custody of children or invalids, to make use of the services of any physician who is not a citizen of the United States.

"SECTION 2. This act shall take effect immediately."

The bill is possibly aimed at a practice said to prevail in some foreign hospitals in this city of advertising for and importing house-physicians from foreign countries.

The evil or injustice of this practice, if it is such, is not of sufficient magnitude to justify such legislation as is proposed. We understand, however, that in a short time the laws of France will make it practically impossible for American physicians to practise in that country. It is already a difficult thing to do.

We believe that if France takes such an attitude toward us we should in justice make it equally difficult for French physicians to come over here and put up their signs. Reciprocity is just.

THE METHODS OF CATARACT EXTRACTION.

AN interesting account of the methods and results of the different operations for extraction of cataract is given by Dr. D. B. St. J. Roosa in the *Archives of Ophthalmology*. The account covers the history of two hundred and six operations extending over a period of twenty years. It shows the varying changes and fashions in cataract operation. A statistical table is given, in which we find that eleven kinds of operation were used, although the great majority were done after the method of Graefe with slight modifications. After carefully trying other methods the writer adopts finally the single flap operation of Graefe without iridectomy. He very candidly confesses that an ingenious operation of extracting the lens in its capsule devised by himself had not the advantages at first supposed, and is unnecessarily difficult.

Of the cases operated upon eighty-two per cent. were successful.

In thirty-two cases the vision was restored to from $\frac{2}{10}$ to $\frac{10}{10}$. In a larger number the results range from $\frac{1}{10}$ to $\frac{10}{100}$.

The most important advance in the technique of cataract operations is the use of cocaine. Dr. Roosa does not

believe very much in antiseptics, but advocates cleanliness, boracic acid, and hot water and soap. As boracic acid is very little antiseptic, hot water and soap hardly at all, it would appear as if not much effort is used to secure asepsis.

Dr. Roosa finds that in some cases senile delirium, in others malaria may develop as the result of the operation.

The statistics given in his article are particularly valuable as showing the results of a candid study of cases continued over many years, and as giving the opinions of a conscientious and skilful operator.

CHEMOTAXIS.

THE study of bacteria and their products, with reference to disease and immunity, has brought into use a new word, and there seems to be some discrepancy as to the meaning and spelling of it. The word is so new that it does not appear in Foster's Encyclopædia Dictionary nor in the Century Dictionary; yet current medical journals have to print it very frequently. If we understand it correctly, chemotaxis is the influence which certain chemical substances possess of attracting or repelling living cells. Thus the bacteria of inflammation produce a substance which attracts the leucocytes, causing purulent foci and inflammation. The term "chemotropism" is used by some; and the word chemotaxis is spelled chemiotaxis by others. "Chemotropism" is also spelled sometimes "chematropism." It would be well if the bacteriologists would get together and agree a little better upon definitions and orthoepy.

THE CARE OF THE INSANE OF NEW YORK CITY.

THE committee appointed by the Mayor to investigate this subject has made its report. In brief it recommends that the city's insane be not transferred to the care of the State, that the allowance for maintenance be increased to fifty cents per week, that the Blackwell's Island Asylum be given up, and its inmates be all transferred to Ward's Island, that the city be exempted from its tax for the support of the State insane, and that the Medical Superintendent receive a larger salary with full power to appoint and discharge his assistants.

With regard to the present condition of the insane poor, the report says: "Their accommodations are a reproach to humanity. Overcrowding exists in every building of every department, and their wretched existence is rendered still more intolerable by the absence of comfortable surroundings, of proper accommodations of every kind, and by insufficient protection, in the case of many of the smaller buildings, from the inclemency of the weather. There is also the danger of fire, which in the inflammable wooden buildings would be certain to result in large loss of life."

The State care of the insane at Binghamton and Willard, except in the matter of buildings and the absence of overcrowding, and perhaps that a better quality of meat was supplied to the inmates, was not found better than that of the city, while the cost of maintenance was considerably greater. Hence a transference of the city insane to the State is not considered necessary.

One point which the Committee did not, we think, touch upon, deserves most careful attention. It is the care of the insane who are not paupers but cannot pay for private treatment. There is a very large and deserving class who do not want their friends in a pauper institution, and who can afford to pay the price of maintenance and a little more, say $5 or $6 per week. At present such people have no choice between private and pauper asylums, unless they go to a State institution, and this will not be possible probably after the city is exempted from its State tax.

A STUDY OF MORALITY.

DR. ALBERT LEFFINGWELL has published a little work on the subject of illegitimacy which has value as a social and medical study. He has investigated chiefly the statistics of Great Britain and Ireland, and he shows that within these islands a great diversity in sexual morality exists. Thus while in some parts of Scotland, out of 1,000 unmarried women, about 20 give birth every year to children, in Ireland the ratio is only about 5 per 1,000. Or, put in another way, the ratio of illegitimate to legitimate births ranges from 80 per 1,000 down as low as 10. The average for Great Britain is about 40 illegitimate births to 1,000 legitimate. The ratio is greater in rural than in urban populations; it is greater in certain counties than in others. The rate is a pretty constant one, year by year, though statistics show it to be gradually decreasing.

After a careful analysis of all the possible factors in increasing or decreasing immorality, Dr. Leffingwell comes to the conclusion that the essentials are these: religious teaching, the ease or difficulty in marrying, heredity, racial traits and tendencies. He dwells on the fact that immorality is a constant and fairly regular social factor; so that one can say that in New York City, for example, there will be in the present year 1,500 to 2,000 unmarried women who will give birth to children.

As immorality brings disgrace, shame, and unhappiness, to the mother, and perhaps to whole families, and as it leaves a stain upon the child, Dr. Leffingwell naturally discusses the question of remedies. In the making the marriage ceremony an easy one, the enforcement of some responsibility for paternity, and the inculcation of proper moral and religious principles in the young are the measures dwelt upon and recommended.

The Statue to Dr. J. Marion Sims, which is a full-length figure in bronze, nine feet in height, has arrived in this city and will soon be ready for the inspection and approval of the Committee on Statues of the Central Park, after which it will be duly presented to the city. The sculptor Ferdinand V. Miller, of Munich, Bavaria, has not only succeeded in making a life-like picture of the distinguished gynecologist, but has given an artistic grace to the pose which will challenge criticism. The pedestal, which will be of granite and eight feet in height, has been especially designed by the same artist, to be in harmony with the lines and purposes of the figure. It is expected that the monument as a whole will be completed and placed in its position within the present year, as a lasting tribute to the subject by the members of the profession in this country and other patrons of the civilized world.

News of the Week.

The Cost of a Name.—There is a good deal in a name, according to Dr. H. A. Hare, who says in the *Therapeutic Gazette:* "Perhaps no better example of the price which can be put upon a name can be found than in the example before us. Diuretin (Knoll) costs $2.50 an ounce, but sodio salicylate of theobromine (Merck) costs fifty cents an ounce, or one-fifth as much. At the dose of two drachms a day the drug at the first price becomes an impossibility to many persons—an advantage in a name to a patentee and a disadvantage to the long-suffering public—while at the latter it is purchasable by a large number. These notes are not made as a final report, but only to point out the fact that the drug sometimes fails to do all that has been claimed for it."

The Best Way to Give Cod-liver Oil in tuberculosis, according to Professor Charteris, is this (*Lancet*): It should be prescribed in a teaspoonful dose at bedtime for three successive nights, then a dessertspoonful at the same time. On the sixth and seventh days it should be taken in a dessertspoonful dose after dinner and at bedtime, and afterward in a tablespoonful dose after each meal. If so prescribed it does not cause eructation or nausea, and the doses may be increased in accordance with the wishes of the patient until the end of the fifth week, when it should be stopped for a week, and resumed. With each dose of the oil five grains of hypophosphite of lime dissolved in a little hot water should be taken. Thus administered, these medicines notably increase the strength of the patient, and returning health is evidenced by increased weight. If circumstances permit, and if the patient be young, a sea voyage is of inestimable advantage in maintaining the progress made to recovery, and if the voyage be to New Zealand and back in many cases the patient's health is established. I firmly believe that the hypophosphite of lime is the only form of hypophosphite of any value in tubercular disease.

Parisian Methods of Treating Pneumonia.—Dr. Dujardin-Beaumetz, in a great many cases of pneumonia uses no remedy whatever, interfering only when complications occur, such as weakness of the cardiac apparatus as the result of a previous infective disease or of alcoholism. In such instances he employs caffeine hypodermically, not approving of the alcoholic preparations, but regarding coffee, tea, and kola as useful. Against nervous symptoms and delirium he employs chloral, and in alcoholic patients paraldehyde in the dose of forty-five grains, but he never uses opium under any circumstances. Blisters are never used by him in the acute stage of the disease. Professor Cornil recommends the use of an antiseptic mouth-wash, and when the local signs of pneumonia are great at the beginning of the disease, orders several wet cups, or resorts to venesection if the pulmonary congestion is severe. He then applies a large blister and gives a mixture as follows:

℞. Brandy or rum	ʒ iss.
Simple syrup	ʒ j.
Tincture of cinnamon	ʒ j.
Distilled water	ʒ iij.

A tablespoonful of this mixture should be taken as often as is necessary to strengthen the pulse. He also orders a little Dover's powder to increase perspiration. Professor Peter thinks that robust and plethoric patients demand the use of venesection and scarifying cups, while the weak and senile must receive cordials, such as the prescription just given, and the bilious must be treated by emetics, such as tartar emetic or antimonium sulphuret, in the dose of from four to five grains. Most other physicians agree in using as stimulants caffeine, ether, alcohol, and camphor. Digitalis is not much used, nor is hydrotherapy at all popular.—*Therapeutic Gazette.*

A Medical Treatment for Appendicitis.—Professor Peter's early treatment of typhlitis and perityphlitis has proved on several occasions very efficacious. As early as possible six scarified or wet cups are placed over the tumor, or, preferably, a large number of leeches are applied in the same region. On the next day after the local blood-letting, the temperature generally falls and the pulse diminishes in volume.—*Therapeutic Gazette.*

A New Treatment for Hiccough.—Dr. Leloir, of Paris, describes a new treatment for hiccough, which he first applied some years ago. He had been called to treat a girl aged twelve, who had suffered for a year from incessant hiccoughing, which occurred about every half minute, interfering greatly with nutrition and sleep. Nearly all the different antispasmodics had been recommended without success. Dr. Leloir then thought of strongly compressing the left phrenic nerve between the two sterno-clavicular attachments of the sterno-mastoid muscle. Digital compression, which was very painful, was used for three minutes, after which the hiccough completely disappeared, and has never recurred. During the last five years he has used this method several times in acute and chronic cases of hiccough, compressing the nerve for a few minutes, with complete success.

The Association of Military Surgeons of the National Guard.—The second annual meeting of this association will be held in St. Louis, Mo., April 19, 20, and 21, 1892. Papers will be read and discussed by regular Army and Navy and National Guard medical officers.

The University Medical College of this city graduated a class of one hundred and sixty-two at its annual commencement last week.

Reviews and Notices of Books.

A Treatise on Diseases of the Lungs and Pleura. By the late Wilson Fox, M.D., F.R.S. Edited by Sidney Coupland, M.D., F.R.C.P. Philadelphia: P. Blakiston, Son & Co. 1892.

This book embodies, we may say, the combined thoughts of almost every living author to date, and goes into especial detail upon the most obscure points which a careful student seeks.

Here we find the pathology and bacteriology especially dwelt upon. The article on Pulmonary Tuberculosis is so carefully written that the etiological relationship between it and bacillus tuberculosis is clearly established. What has been said of Pulmonary Tuberculosis may be said of all other chapters, which are treated in an exhaustive manner. It is of especial mention, and for this reason the book will be highly welcomed by the general practitioner, for the treatment of pulmonary diseases is one about which too much cannot be written, considering the enormous mortality caused by the same.

To the specialist, the article on the Climatic Treatment of Tuberculosis is highly instructive reading. The illustrations deserve special mention, for they are very finely executed, and especially in the article on Plastic Bronchitis, the casts shown are neatly executed. In the article on Asthma we find a neat illustration of the octahedral crystals from the sputum, and also some cells, presumably the eosinophile cells recently described by Professor Leyden, of Berlin.

In the chapter on Pneumonia, which is also replete with illustrations and charts and tables, a great deal can be learned. The articles on Influenza and Whooping-cough are very interesting—the latter a masterly article, although no notice of bromoform, which has been extolled in this country and abroad as almost a specific in pertussis, is made.

On page 103 we find, in the article on Influenza, "the theory that it is due to germs or fungi still requires facts for proof." This is written in 1891. How science advances is shown by the conclusions of Pfeiffer and Covon, who but two months ago discovered almost simultaneously the bacillus of influenza, the former in the sputa and excreta, the latter in the blood of patients affected. These have been thoroughly described last month in the MEDICAL RECORD.

COCA AND COCAINE: THEIR HISTORY, MEDICAL AND ECONOMIC USES, AND MEDICINAL PREPARATIONS. By WILLIAM MARTINDALE, F.C.S., Late Examiner of the Pharmaceutical Society, and Late Teacher of Pharmacy and Demonstrator of Materia Medica at University College; Joint Author of the "Extra Pharmacopœia." Second Edition. London: H. K. Lewis. 1892.

THIS is an interesting little work on the history, botany, habitat, mode of cultivation, commercial value, and medical and dietetic uses of coca, and also the chemistry, pharmacy, and therapeutics of cocaine. The author has diligently searched the literature, both general and medical, of his subject, and has made a very readable and instructive brochure. In the second edition the work has been thoroughly revised and brought up to date in most respects, but it is rather singular that the author has devoted so little space to the consideration of the mode of producing local anæsthesia of the skin and tissues other than the mucous membranes.

BOTANY: A CONCISE MANUAL FOR STUDENTS OF MEDICINE AND SCIENCE. By ALEXANDER JOHNSTONE, F.G.S., Lecturer on Botany, School of Medicine, Edinburgh. With One Hundred and Sixty-four Illustrations and a Series of Floral Diagrams. New York: D. Appleton & Co. 1891.

WE cannot agree with the author of this book when he asserts in his preface, that "no one attempts to teach himself science nowadays," and that, therefore, what is wanted by the modern student (in this specific case of Botany) is not "a manual with diffuse explanations, but rather a kind of illustrated digest and general note-book, which will enable him to quickly arrange and make the most effective use of the various facts and theories treated of by his teacher." No one would by preference teach himself science if he were able to avail himself of the guidance of a teacher, at least when taking his first steps; but everyone is not so fortunately placed, and many men, if they would learn at all, must teach themselves from books and observation in the absence of a living instructor. Mr. Johnstone has aimed, he says, to construct such a text-book as may be useful to learners who have been, or are, members of a class in botany. In this he has succeeded admirably, and we can readily believe that anyone attending a systematic course of lectures on Botany will find this work most useful, in enabling him to recall and stamp firmly in his memory the points brought out by the lecturer. But the author is too modest in restricting the field of usefulness of his book, for the text, though concise and reduced to almost the last equation of brevity, is nevertheless so clear and clean-cut, and so happily supplemented by the illustrations, that anybody, whether he has previously studied Botany or not, cannot fail to derive instruction from its pages. For one ignorant of the science it will serve as a work of reference, while the former student who has become a little rusty will find his knowledge of botany brightened and made as good as new by this lucid summary of the beautiful science. A fairly complete glossary and index enhance the usefulness of the work, especially for the two classes of readers just mentioned.

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF DISEASES OF THE HIP-JOINT. By ROBERT W. LOVETT, M.D., Out-patient Surgeon to the Boston City Hospital; Assistant Surgeon to Out-patients at the Children's Hospital, Boston; Member of the American Orthopedic Association. Boston: Geo. H. Ellis. 1891.

THIS is an essay to which was awarded the Fiske Fund Prize of the Rhode Island Medical Society in June, 1891. The author takes up the various affections of the hip-joint, including the rarer forms, such as Charcot's disease, congenital dislocation, and neuromimesis, each in its turn, and treats of them very fully and satisfactorily within the limits set by the trustees of the prize fund. For the sake of completeness, however, it is to be regretted that a consideration of the symptomatology of hip diseases should have been omitted, since upon a correct diagnosis depends the successful management of these cases. The illustrations, of which there are over fifty, are for the most part from photographs, and have been selected with nice discrimination. The addition of the omitted sections on the symptoms and diagnosis is all that is needed to make this a very valuable treatise on diseases of the hip.

THE MEDITERRANEAN SHORES OF AMERICA. SOUTHERN CALIFORNIA: ITS CLIMATIC, PHYSICAL, AND METEOROLOGICAL CONDITIONS. By P. C. REMONDINO, M.D. (Jefferson), Member of the American Medical Association, of the American Public Health Association, of the San Diego County Medical Society, of the State Board of Health of California, etc. Philadelphia and London: The F. A. Davis Co. 1892.

WE don't like the title of this book. It is as repellant as Charles Dudley Warner's "Our Italy." No one who has experienced the horrors of the mistral on the Riviera, or the torture of a cold day in Roman lodgings, would ever be tempted to visit Southern California if he thought such names were justly applied. Even the most luxuriously cushioned arm-chair will tempt few sitters if it is known that the upholsterer has left several bent pins concealed in the soft and springy seat; and the sensible pilgrim really in search of a mild and equable winter climate will not knowingly go to a place where he is exposed to the stings of even occasional cold days. For this reason it seems to us that the title does injustice to the subject of the work.

But now for the book itself. It is a very fair and temperate description of the climate of Southern California, well written, interesting, and reliable. While the author is evidently himself in love with the climate and believes it among the best, if not actually the best on earth, yet his book is pleasantly free from the cure-all style of the climate boomer. Dr. Remondino believes in the climate and he wants others to know and appreciate it, but he lets his subject speak for itself and does not try to bolster it up by exaggeration. The introduction contains a brief essay on medical climatology, and more especially the relation of temperature and altitude to consumption. The illustrations, of which there are many, are derived from various sources, and are of very varying degrees of excellence.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent).

THE HUNTERIAN LECTURE—DR. HUGHLINGS JACKSON ON NEUROLOGICAL FRAGMENTS—THE CEREBRAL CHANGES IN DELIRIUM AND INSANITY—LARYNGEAL CRISES—REGULATION—CEREBRAL AND CEREBELLAR INFLUXES—THE MORBID CHANGES IN CEREBRAL HÆMORRHAGE—DISCUSSION ON ENTEROSTOMY AT THE MEDICAL AND CHIRURGICAL SOCIETY.

LONDON, March 12, 1892.

In the Hunterian Lecture recently delivered before the Hunterian Society, Dr. Hughlings Jackson discussed several interesting points in neural pathology under the title of "Neurological Fragments." Teeming with facts and illustration, as is the case with all Dr. Jackson's contributions, the lecture is not one which can be summarized in a few lines, and I can only briefly refer to a few of the topics brought before the Society by Dr. Jackson in his elaborate and suggestive address. The first part of the lecture was devoted to the subjects of insanity and delirium. The lecturer said he had often thought that the scientific investigation of insanities might be best begun in general hospitals, and especially by taking for study cases of delirium in such non-nervous maladies as pneumonia and emphysema with bronchitis. These were not insanities at all in the conventional sense of the word, but in a scientific regard they were, as they were departures from normal mental states. After the late Dr. Monro, he had urged that the mental condition in all insanities short of dementia was double—one of two opposite mental elements. In cases of emphysema with bronchitis we could observe a gradual losing touch with present surroundings (negative element), and a gradually increasing quasi-relation to organized experiences of former surroundings (positive element). Using popular language, the patient gradually ceased to live in the real world and came to live more and more in a world of his own. The lecturer then adverted to the physical condition concomitant with insanities—the two abnormal cerebral states corresponding to the two abnormal mental elements. The negative mental state, he said, signified loss of function of the highest range of the highest cerebral centres. The positive element of an insane man's mental condition signified evolution going on in lower intact ranges of his highest centres. He attributed the two degrees of insanity in cases of emphysema partly to great supervenosity—to different degrees of it. It was certain that supervenous blood over-stimulated some lower (*e.g.*, medulla) centres. The obvious explanation of the delirium in cases of emphysema with bronchitis would be that it corresponded to over-stimulation of cerebral centres. Asphyxia, however, rendered the motor cortex inexcitable. It did not follow that asphyxia rendered the remainder of the cortex functionless. Dr. Jackson suggested, however, that supervenous blood, according to its degree of venosity, diminished or annulled the function of all parts of the cortex. If so, it could not be the cause of delirium, which implied function going on. He suggested that the course of events was as follows: The highest, the least organized, range of the highest centres was rendered functionless at first (by supervenous blood), while the lower and more strongly organized ranges of those centres remained functionable. The lower ranges being now uncontrolled rose in activity, and during their activity delirium occurred. When the supervenosity became very great the lower ranges of the highest centres also succumbed, and then no sort of mentation was possible—not even that disorderly mentation which we called delirium He admitted that the condition was probably more complex than this in reality, for from highly supervenous blood there would be very great stimulation, and perhaps ultimately exhaustion of lower (medulla) centres. He had suggested elsewhere that great supervenosity might cause loss of the knee-jerks, as when there was great cyanosis in severe cases of emphysema with bronchitis, and that possibly the absence of this tendon reaction in some cases of apoplexy was thus caused.

Passing on to other subjects, Dr. Jackson remarked that he had (in a paper read before the Hunterian Society) submitted that the paroxysms in laryngismus stridulus were asphyxia fits, analogous to those producible artificially in rabbits and dogs, and were due to interference with respiration from softened (rickety) ribs causing overstimulation of the respiratory centre by supervenous blood—convulsions resulting. He now discussed this subject in greater detail, and also that of asphyxia in laryngeal crises. In these there might be loss of consciousness and some degree of convulsion, as in a patient now under his care. He suggested that if, as Semon thought, there was in these cases an "irritative" state of the (medulla) adductor centres, laryngeal crises were due to occasional overaction of these centres by which the glottis was greatly narrowed or even completely closed.

The lecturer then reviewed the subject of "Regulation" (nervous, mechanical, chemical), and referred to his theory of cerebral and cerebellar influxes. The lecture was brought to a conclusion by discussing the changes which occurred in cases of cerebral hemorrhage. Referring to "cerebral fever," Dr. Jackson said he thought it depended on secondary effects the clot produced in medulla centres; he thought that morbid changes were set up akin to those of optic neuritis. In a case of large cerebral hemorrhage it was convenient to distinguish several modes of action of the escaped blood. Thus (1) it destroyed tissue, and thus produced such symptoms as hemiplegia; (2) it caused shock—varying with the rate of its escape; (3) according to its bulk it squeezed and thus produced loss of consciousness; (4) in its character as a "foreign body" it might produce encephalitis, and thereby, hypothetically, "cerebral fever," by changes induced in medulla (regulating) centres; finally, (5) in some cases of cerebral hemorrhage in which consciousness, if defective, had not been lost at the outset, delirium might occur, and he submitted that this was mainly a "return effect" on the brain, a consequence of imperfect working of the respiratory and other organic systems, a state of things analogous to that in the delirium of some cases of emphysema with bronchitis, and in some cases of cervical fracture-dislocation of the spine.

The last meeting of the Medical and Chirurgical Society was occupied with a discussion on "Enterostomy in Intestinal Obstruction," on which subject Mr. James Greig Smith, of Bristol, read a paper. He advocated operative evacuation and drainage of intestinal contents in cases of obstruction of the bowels where distention was a marked feature. Mere over-distention was a potent factor in the production of obstruction, and the operative treatment of intestinal obstruction was not complete till this continuing cause was removed. According to the nature of the case the measures adopted should be: (1) Simple evacuation of contents with immediate return of the gut; or (2) evacuation with drainage for several hours or days, and subsequent closure and return of the gut; or (3) evacuation with drainage that might be permanent. These procedures were discussed in detail. Mr. Smith thought that anæsthesia should never be carried out while the stomach was distended with fluid; the stomach should be artificially emptied, or the operation should be performed by the aid of local anæsthesia only. The measures advocated were intended to supplement and complete the ordinary surgical methods for relief of the strangulation, and in no sense to replace them.

Mr. Bryant said he fully agreed with the author as to the evil effects of over-distention of the bowel. After relieving a strangulated hernia the symptoms sometimes persisted and death followed; this was due probably to the paralysis of the strangulated knuckle of gut being unable to allow the over-distended gut above to empty itself.

Relief in such cases would probably be procured by a small enterostomy if only a diagnosis could be made. He had in three cases obtained satisfactory results by tapping the over-distended bowel when it had been impossible to return it within the abdomen.

Mr. Knowsley Thornton drew attention to the importance of applying firm pressure to the abdominal walls after operation in these cases, owing to the abdominal muscles having lost their tone.

Mr. Pearce Gould suggested that some poison was probably absorbed in these cases which was particularly dangerous to the patients during the administration of chloroform, and he pointed out the good effects of washing out the stomach in cases of fecal vomiting. In some cases of acute intestinal obstruction, although the operation might remove the cause of the obstruction, the patient might never recover from the effects of the anæsthesia but die soon after.

Mr. Thomas Smith said he was glad to find that the author laid such stress on the importance of reducing the length of time of administration of the anæsthetic to the shortest possible. He had long realized that manipulations of the stomach and intestines produced little or no discomfort, even when no anæsthetic had been given, and mentioned examples. It was a decided advance to be able to divide an operation of this kind into two stages—the first to afford immediate relief; the second to remove the cause of the obstruction. "Paul's tubes" were of value.

Mr. Howard Marsh observed that in some cases of strangulated hernia, though the bowel was released by operation, yet life was not saved owing to the paralysis of the part of the intestine implicated. Some surgeons had advocated resection of this part in these cases. He asked the author if he did not think the difficulty could be overcome by tapping the over-distended gut some way above the point of strangulation.

Mr. Rickman Godlee mentioned a case in which he had operated for umbilical hernia without an anæsthetic and the patient did not pay much attention while the intestines were being handled but only while traction was being made on the neck of the sac.

Mr. Greig Smith then replied. He said the necessary steps in an operation for intestinal obstruction were: 1, The stomach to be completely emptied; 2, the patient to be anæsthetised as lightly as possible; 3, an incision not exceeding three fingers' breadth in length to be made where required; 4, the sutures to be inserted, their ends collected in two clips and held aside; 5, the anæsthetic to be discontinued; 6, the cause of the obstruction to be quickly sought for and removed; 7, the over-distended gut higher up to be relieved, for which purpose he used a Spencer Wells ascites needle, attached to an aspirator bottle in which the pressure was only moderate (the contents of the intestine might come away directly or it might be necessary to wait half an hour or longer); 8, after withdrawing the needle, to close the puncture wound with a Dupuytren's suture and allow the bowel to drop back into the abdomen if sufficient relief had been obtained; or 9, if not, to keep the coil of intestine that had been punctured in contact with the opening in the abdominal wall by means of a stiff skewer passed under it or through the mesentery (stitches were unnecessary); 10, to dress the wound with boric acid and boric acid lint; 11, to firmly bind the abdominal wound with strapping so as to avoid what was perhaps the most serious risk, viz., prolapse of coils of intestine. He did not approve of leaving a tube in the intestine for drainage purposes as it was liable to cause a secretion of mucus which was injurious, but preferred to tap as many times as might be necessary to relieve the distention.

German Otological Society.—It is proposed to establish a German Otological Society, and a meeting for the purpose will be held at Frankfort-on-Main in Easter week.

THE HEALTH RESORTS ON THE RIVIERA.

(Continued from p. 389.)

IV.—General Observations on the Riviera Climate.

(From our Special Commissioner.)

THE TWO RIVIERAS—WHY THE RIVIERA ENJOYS AN EXCEPTIONAL CLIMATE—NOT AN IDEALLY PERFECT WINTER—GENERAL CHARACTER OF THE RIVIERA WINTER—PHYSICAL GEOGRAPHY—THE TEMPERATURE—SUDDEN CHILLS—ABSENCE OF FOG—THE JOURNÉE MÉDICALE—THE WARMTH OF THE MEDITERRANEAN SEA—SUNSHINE AND CLOUD—RAINFALL—HUMIDITY.

Mentone, March, 1892.

Before continuing with the detailed account of the principal health resorts scattered along the seaboard of the Maritime Alps, it may be well to make some general remarks applicable to the whole region.

The term Riviera, derived from the Italian for coast, really belongs to the entire north shore of the Mediterranean, from Marseilles, in France, to Leghorn, in Italy. Common usage, however, has given it a more restricted meaning. By this lesser Riviera, then, we designate only a narrow strip of land containing the most famous winter stations, and extending from Hyères on the west to Genoa on the east. This is a distance of about two hundred miles only. A further subdivision is made by differentiating between the Western or French Riviera (*Riviera di Ponenté*) and the Eastern or Italian Riviera (*Riviera di Levante*). This whole district is situated between 43° and 45° north latitude, and it is, therefore, at once apparent that the warmth and mildness of its climate are not the result of southern latitude merely.

The altogether exceptional climate of the Riviera is due in great measure to the protection afforded by a series of mountain ranges, that in some places run down to the very border of the sea. At some of the most favored winter stations there is an almost complete immunity from those icy winds prevailing farther northward. Again, the immediate proximity to the Mediterranean Sea, whose restless waters are unusually warm and salty, is a contributing factor of no mean importance. And, finally, the great frequency of clear skies and brilliant sunshine, coupled with a dry atmosphere, result in a generally warmer and more equable temperature than is found in much more southern latitudes.

But there is a reverse side to every shield. The very factors which conduce to great warmth also account for the sudden chills that are constantly experienced the moment shade succeeds to sunshine. And the decidedly annoying and, at times, positively dangerous winds are likewise caused by the rush of cold air to the overheated shorelands, wherever a break in the mountain barriers permits such access.

In the words of Dr. Bennet it is well to remember that winter is by no means avoided. The descriptions of the winter climate of Nice, Cannes, Hyères, and of Italy in general, contained in most books of travel, works on climate and guide-books are mere poetical delusions. The perpetual spring, the eternal summer, the warm southern balmy atmosphere, described to the reader in such glowing terms, only exist in the imagination of the writers. These stupidly exaggerated accounts are to blame for the invariable disappointment that foreigners experience on becoming personally familiar with the actual condition of the Riviera climate.

Of course the general features of this climate have been thoroughly studied and are now quite well known. And, as just intimated, it is neither an ideally perfect one, nor yet, as many believe, a particularly hot climate. Nevertheless, those who have apparently found such sweet solace in utterly condemning the Riviera have signally failed to point out where a more accessible or far superior winter climate is to be found.

It should also never be forgotten that, however familiar we may be with the general character of a particular

climate, exceptional seasons must be encountered which will rudely upset all prognostications based on previous ones. For weather is not climate, as New Yorkers have reason to know.

In order to obtain an adequate idea of the climatic peculiarities of a given district, we ought to consider the following points:[1] 1, Temperature and the character of its variations; 2, the proportion of sunny days to rainy ones, of clear skies to skies that are overcast; 3, the number of rainy days, and (what is of less importance though usually much insisted upon) the amount of rainfall; 4, the humidity of the atmosphere; 5, the prevailing winds, their character, and the amount of protection from them.

To these points, which are those given by Dr. Yeo, it is proper to add some consideration of the local flora, since that is bound to furnish most important clues. Indeed, no better general idea of the amount of winter warmth and permanent shelter enjoyed at a given spot could be obtained than by a study of its vegetation. Humboldt was probably the first to insist on this cardinal point, and as de Candolle puts it, "*les plantes ne choississent pas leurs conditions; elles les subissent ou elles meurent.*"

Fonssagrives has also very aptly said that plants are not alone living thermometers, but that they are reliable vitalized climatometers.

It is necessary to consult one's geography, before the general features as well as the numerous local peculiarities of the Riviera climate can be properly understood. A map in the hand is worth ten Riviera letters, even in the RECORD. In fact, I think a map ought to go with every letter. The trouble is, the editor will probably say "think again" to my brilliant proposition. So that, since he is cock of the health-walk, it will have to be my ambition to "make the letters go" without the maps.

The Apennines and the Maritime Alps constitute the chief protecting barriers of the Riviera against northern cold. But many winter stations are still further sheltered by additional mountain ranges, and by lower hills that often run down to meet the very bays on which the towns and villages are built. The Western Riviera is much more favored in this respect than the Italian Riviera, and once beyond Genoa, the distant Alpine barrier becomes a mere fiction, so far as real protection from cold northerly winds is concerned.

Dr. Bennet, for many years a resident of Mentone, has clearly set forth the degree of protection given by the various mountain ridges:[2] "The Alps and Apennines form an immense screen to the northeast. The Swiss Alps, which terminate rather abruptly in the plains of Piedmont by the grand Alpine heights of Mont Cenis, Mont St. Bernard, and Mont Simplon, are continued in Savoy and Dauphiny down to the Mediterranean at Toulon, Hyères, Cannes, and Nice. From Nice the mountain range, which then takes the name of Maritime Alps, skirts the shore of the Gulf of Genoa in a northeasterly direction as far as that city, and in a southeasterly direction as far as Lucca. At Genoa it unites with the Apennines, or rather becomes the Apennines."

Italy is, therefore, less sheltered than the Rivierian littoral, and its climatic health-resorts are only found on the western sea-coast, and certainly not beyond Pisa.

From the above it appears that, what is technically known in the art of gardening as an "espalier," nature has accomplished on a grand scale on the Riviera. More than this brief excursion into the tiresome domain of physical geography is unnecessary. But that much, and a great deal more is the inevitable penance which the nouveau Riviera climatologist is doomed to undergo. And, as I hope to show later on, there is plenty of other torture in store for the conscientious student of health matters in this part of the world.

[1] See J. Burney Yeo: Climate and Health Resorts, p. 378. 1890.
[2] Winter and Spring on the Shores of the Mediterranean, p. 5. London, 1875.

The thermometer has been much sinned against along the Riviera. It has been made to proclaim every place better than all neighboring ones by its enforced subserviency to the dictates of tyrannical local registers. Anything more futile than the attempt to get at the truth from the numerous contradictory records that confront you I have not yet come across. Most Riviera books are over-burdened with dreary tables of means and extremes, of averages and maximums, of minimums and other variations, that only bemuddle when elucidation is needed. Most of these tables have a knack of shedding deep darkness precisely in those places where light is most wanted. To take, as has been generally done, thermometrical readings at stated intervals, say of about four hours, and then work out an elaborate system of averages is so puerile a performance that it seems strange how one medical authority after another could have fallen into this faulty method. Yet such is the case, with (so far as I am aware of) very few exceptions. Dr. Onimus has boldly stated,[1] and I am fully prepared to agree with him, that it might be an advantage to pass a sponge over all the thermometrical records usually published in works of reference on the Riviera.

Patients are sent to the sunny South to be as much as possible exposed to direct solar rays. Yet most thermometrical records subserving meteorological purposes are taken in the shade, and generally facing northward. Teysseire has, however, furnished figures which compare the temperature of spots fully exposed to sunshine with those remaining in the shade, and I will presently give some of his observations. But before doing so the method employed by Dr. Onimus should be mentioned. This observer uses an apparatus with which the variations of temperature are graphically traced by a simple self-registering device. The traces thus obtained show the hourly or half-hourly variations for the entire period of twenty-four hours. Of course, every physician will be able to judge from the steep or gradual ascent of the traces how rapidly the thermometer has risen, how long the maximum temperature has lasted, when the minimum occurred, and all other important details. By carefully comparing such graphic records, temperature curves of real value can be constructed.[2]

Doubtless it is well to know that the Riviera enjoys a mean winter temperature some eight to ten degrees Fahrenheit higher than England. But it is scarcely necessary to know any other average record.

The difference between sun and shade temperature is more important however, and here are some of Teysseire's figures.

Mean temperature.	Sun.	Shade.	Difference.
In spring	146.1° F.	67.6° F.	78.5° F.
In summer	155.1° F.	82.9° F.	72.2° F.
In autumn	139.8° F.	64.6° F.	75.2° F.
In winter	128.9° F.	55.9° E.	73.0° F.

These figures are transcribed from Sparks.[3] According to them there is the considerable average difference between sun and shade temperatures of about 75° F. all the year round. This is one reason why the Riviera climate has often been found so treacherous by the uninformed and unprepared newcomers, who are apt to neglect obvious precautions.

So, too, physicians sending patients to the Riviera should surely know something of this unfortunate peculiarity.

There are always days when winter makes itself unmistakably felt, and there are hours in almost every day when a very decided sensation of cold is experienced out

[1] L'Hiver dans les Alpes Maritimes, p. 218. Paris, 1891.
[2] Good reproductions of illustrative curves are found in the work of Onimus, but unfortunately they only apply to Paris and Monaco.
[3] The Riviera. London, 1879.

of doors. Yet a glance at ordinary average temperature charts would engender the utterly mistaken notion that it is always warm in these regions. But I believe it to be very near the truth when I state that the actual sensation of cold is more keenly and disagreeably perceived here than in much colder zones. It was a Russian emperor who said that "he preferred Russian to Italian winters, because you could see the former without feeling them, whereas you felt the latter without seeing them." For a mere emperor that is not a bad observation.

The mean winter temperature of the Riviera, speaking quite broadly, is about on a level with the annual mean of New York. But the figures for New York are apparently rising, as a glance at the table of the Weather Bureau shows:

Annual Mean Temperature at New York.

1885	49.8
1886	51.0
1887	51.9
1888	50.0
1889	53.5
1890	53.6
1891	53.8

In any event, the comparison shows how absurd it is to draw conclusions from such tables. For the winter climate of the Riviera does not bear the slightest resemblance to average New York weather. In fact it would be a blessing if these misleading averages could be entirely eliminated from climatological discussions. But such is the force of bad habit that they crop up constantly, much after the fashion of other useless weeds.

The sudden sensation of chilliness experienced at sunset has been already alluded to. It has been generally attributed to an equally sudden fall in temperature. It is not a peculiarly Rivierian phenomenon, however, being met with wherever solar radiation is powerful, owing to clear skies on a scant atmospheric humidity. Dr. Onimus has conclusively shown that there is no such rapid fall of the thermometer as has been uniformly insisted upon. Indeed he finds that, thermometrically speaking, it is just about as warm at sunset as in the forenoon. Yet everybody feels warm in the morning and cold at sunset, which once more shows that the alleged teachings of the thermometer are to be taken *cum grano salis*.

Again, it is not only at sunset, but in going out of the sunshine into the shade, that these Riviera chills always creep over you.

A few words will suffice in explanation of the way the human body is affected by radiation, and how this physical law accounts for the disagreeable sensation alluded to. In the absence of aqueous vapor in the air solar radiation becomes powerful, because dry air is a good conductor of heat. All bodies, even animated ones, tend to give up part of their store of accumulated heat the moment they are plunged into shade. Of course the automatic heat regulation of the body prevents any material fall of interior temperature. But the surface is actually cool, and feels subjectively even cooler, the moment it has ceased to be exposed to the sun. If you were to leave the hot-room of a Turkish bath and take the cold plunge at once, you would experience just about the same thing that almost unavoidably happens to you several times a day on the Riviera. There occurs on every such occasion a rapid abstraction of caloric, which is responsible for a profound and sudden sensation of cold.

A heavy precipitation of dew (a very necessary boon to vegetation, that without it would soon be parched to death) is one of the results of what has just been briefly explained. And for the same reason the atmosphere, especially near the earth's surface, may grow so hazy that it seems to hold a fog. Yet this is not the case, for true fogs, such as occur in moist marine climates, are practically unknown on the Riviera.

On the other hand, when cloudy skies obtain solar radiation does not take place, and this explains why on such days the evening chill is not felt.

The invalid's day, or, in other words, the hours during which he is advised to be out of doors, have been generally set down to begin at ten or eleven o'clock in the morning and to end at from two to three o'clock in the afternoon. But Dr. Onimus has found that the temperature is lowest immediately before sunrise, and that so soon as the sun appears it gets warm with such rapidity that an almost perpendicular line is traced on the register. In different months and at different places there are variations in this respect, but in any event the best time for going out can be safely put down as at least one hour earlier than has been generally done. A contributing factor to the winter warmth of the littoral is found in the temperature of the Mediterranean Sea. This is stated by Dr. Marcet to be 12° F. higher than the mean minimum of the air. He says: "The temperature of the air near the Mediterranean must derive a considerable accession of heat throughout the winter from that which is stored up by the water during the summer; and this may be considered one of the most powerful agents to which we are indebted for the comparatively mild winter temperature of the South of France."

All observers agree in saying that the Riviera merits its long-established reputation as a land of brilliant sunshine and clear skies.

Sparks gives the following averages, based on different observations extending over a period of something like forty years:

Number of Rainy Days.

	Hyères.	Cannes.	Nice.	Mentone.	Genoa.
November to April (both inclusive).	37.5	45.8	36.2	43.5	67.0

From Teysseire the following figures are borrowed: 64.7 days of rain per year; 86.5 cloudy; 208.5 clear.

For a region bordering on the sea the Riviera is certainly very dry. The number of rainy days is decidedly less than in many other coast lands. Merely overcast days are likewise comparatively few. When rain finally falls, however, it generally does so in a pour rather than a mere sprinkle. But even after a thorough drenching the sun's heat rapidly restores the *status quo ante* in regard to dryness.

Concerning the distribution of rainy days, it is of course impossible to speak in any other than a very broad manner, which will have to cover numerous seasonal departures. Still one must expect rain in October and November, less in December, and least of all in January and February. March is very uncertain, and in April there is usually again a decided increase in the number of wet days, as well as in the actual amount of rainfall.

Thoroughly cloudy days and days of incessant rain are said to be rare on the Riviera. But this winter's experience has shown me that the sky may remain completely obscured for six successive days, and that a steady drizzle may take place that no New Yorker will fail to spot as a reminder of home. Naturally, local authorities all inform you that this has been an exceptional season. They always tell you that in Europe, when anything happens to the fair weather that they put in all their books. I don't believe an author could find a publisher here for his observations if they happened to include any really disagreeable weather. There is something quite touching about all this everlasting sunshine one reads about, especially when one has not had an opportunity of seeing his solar majesty for something like two weeks in succession.

The actual amount of winter rainfall on the Riviera is almost double that of London, and considerably in excess of that of Paris or New York. But, as already stated, the number of rainy days is very much smaller. Especially with southwesterly and southeasterly winds

the rainfall may be almost tropical in character. Some five or six, or even more, inches may then be poured down in the twenty-four hours. "Whenever this occurs, the watercourses are filled from bank to bank, with enormous volumes of water, which carry down great masses of stone, like straws, from the mountains, and excavate wide beds as they approach the shore-line. When the rain falls with this tropical violence the smallest rills become impetuous torrents." [1]

It is stated on good authority that the average annual rainfall at Nice, representing the Western Riviera, is 811 millimetres; at Genoa, representing the Eastern Riviera, 1,317 millimetres; at Hyères it is only 746.

That the Mediterranean seaboard enjoys an exceptionally dry climate has been already stated. Dr. Bennet has briefly enumerated the causes leading to this condition, viz.: prevalence of northerly winds, the great power of the sun, the freedom from fog, the small number of rainy days, and the dry, rocky character of the soil.

The dryness of the whole region may also be ascribed to the circumstance that the littoral represents the northern boundary of the "rainless tract."

As regards moisture in the air, saturation should not be confounded with humidity. The latter represents the amount of aqueous vapors contained in the atmosphere as compared with what it might hold if it were fully saturated at the same temperature. Humidity denotes rather the tendency of the vapor to precipitation. Now, the air along the Mediterranean is never saturated. This is accounted for on the ground of the large proportion of salt contained in the sea-water (Onimus).

There is certainly, as everyone knows, a decided difference between the clammy penetrating sensation of humidity experienced on the shores of sweet-water lakes and the corresponding sensation felt along the beach of salt-water oceans.

If we take one hundred to represent saturation, then the Riviera humidity might be placed at about seventy for the winter months. The figures in New York often get up into the nineties, and the ordinary London average is very nearly ninety.

That the skin and even the lungs will give off a relatively large proportion of aqueous vapor is thus easily understood. And I believe that certain renal affections may be much benefited by the judicious use of a climate promoting the compensatory activity of the cutaneous surface.

This letter has now reached such length that the Riviera winds and vegetation will have to be considered in my next.

Morphine Parties in Paris.—The Paris correspondent of the *Tribune* in a recent letter wrote that he had just come from a lecture on morphine mania by Dr. Durand-Fardel. The lecturer spoke of this kind of intoxication as having stolen first on the wealthy, and now as spreading so fast to the less rich classes as to threaten to bring France to the level of China and Turkey. He showed a hypodermic syringe which was really an article of jewelry. One end was a pencil to note down dance engagements on ivory tablets, and the other end a hypodermic injector. The case was enriched with brilliants, and the tablets were attached to a ring, jewelled also, which was to be worn on the finger of the person intending to use the little instrument. He found in many instances that the initiation began at social meetings where a select company gathered to make experiments and to relate sensations.

Physicians as Freight.—The Ohio Legislature has recently passed a law providing that physicians in the discharge of professional duties shall be permitted to ride, at their own risk, upon freight trains between stations where such trains stop, paying therefore the regular passenger fare.

[1] Bennet: loc. cit., p. 67.

WHAT CONSTITUTES INEBRIETY.

To the Editor of the Medical Record.

Sir: In the Medical Record for March 19, 1892, Dr. C. L. Dana is not accurate when he writes, referring to Dr. Norman Kerr on "Inebriety," "He seems to include nearly every person who drinks, and at times gets drunk, in this class." I would call attention to Kerr on "Inebriety," second London edition, page 16, where these words will be found: "The majority of those who drink are happily not susceptible to its anæsthetic action; but in virtue of an unalterable law of nature there are large numbers whose susceptibility to the narcotic properties of this poison is so delicate that, though they are fully conscious of their weakness, and sick unto death of their slavery, once dally with an intoxicant they fall prostrate before its might." Also on page 16: "Therefore I freely concede that if there is inebriety the disease, there is drunkenness the vice and the sin." In common with others who have long observed people and their families, and have studied individual cases and their family histories as general practitioner, I have, after twenty-five years' general practice where I was born, and where my father was born in 1797, and where he lived ninety years, arrived at certain conclusions regarding inebriety as distinguished from ordinary drunkenness. I have also had special opportunities to study inebriety, and to compare it with some forms of insanity. Without wishing to be tedious I can hardly help referring to two cases of recurrent mania, in which the drama of intoxication in three acts was watched with interest. It made me think of Dr. Clouston's idea of inebriety, "Unstable condition of the brain-cells, with paralysis of control."

C. P——, aged fifty-five; chronic monthly recurrent mania. Attack always began with great excitement, acting like alcoholic in first stage; face flushed, quick and loud talking, gait somewhat unsteady, and anyone without knowing would simply think him drunk. He would be noisy for days and nights, requiring extraordinary doses, which would hardly quiet him; but after some days he would become quieter, then stupid, and sleep as one in last stages of a drunken debauch.

A. B——, aged fifty-two, temperate, religious, and, when himself, a fine man, had recurrent mania of most intractable character. If kept quiet would go a year without attack, but overdoing would precipitate one, which would last nearly a year. Face flushed, loud talking, swearing, and whole character changed. He said to me: "Doctor, I am just like a man on a spree, I must have it out. I knew it had got to come, it don't hurt me to talk, and I am going to talk."

Inebriety is a complex disease and needs to be watched over a long period of time to form conclusions regarding it. Its accidents, and those of ordinary drunkenness, as delirium tremens, etc., few differ about, and we all know that pathological results do not cause the disease, for some who have died by accident have been found as organically sound by appearances as many of the insane have appeared. Because there are such an immense number of cases of plain drunkenness, we should not shut our eyes to true inebriety, and overlook it, when it exists, as has often been done. Some day it will be better understood by sheer force of circumstances, by its increase and effects, and already the tide is coming in. Before 1816 little was known of diseases of women, and when I began the study of medicine, in 1861, comparatively little was known here about diseases of the rectum, and we had to go to St. Mark's Hospital, London, to study and see the best operations. Bushe, in this country, had written the best book on the subject, but there are always pioneers. I served in Bellevue and on Blackwell's Island in 1864 and 1865, and I cannot think the cells the best place to study inebriety. Long, close, and broad observation is required. How many who see the insane come nearly to feel that many are simply vicious, and it is not so very surprising sometimes. I was much

struck by Dr. Hammond's article in the *North American Review*, more than a year ago, where he dilates on this very point. I am not running a retreat, and only write with conviction from a full head and heart.

W. A. LOCKWOOD, M.D.

426 VANDERBILT AVENUE, BROOKLYN, April 4, 1892.

THE STATE MANAGEMENT OF THE INSANE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: While the State regulation for the management of the insane is conceded by everyone to be a necessary measure, the abuse of power by its officers can very easily work an inconceivable amount of injustice and persecution. Until the year 1889 there was but one officer whose duties were fixed by statute; and two or three medical men, who were incumbents, as a rule, sagaciously and intelligently inspected the asylums and regulated the commitment of patients. Within the last three years, however, a three-headed commission was appointed, but one member of which was a medical man, and its existence was the result of a most persecutory act of the Legislature, which practically enables this board to enact it own laws and do what it chooses, it being even beyond the mandamus of a Judge of the Supreme Court of the State. As one greatly interested in the commitment and treatment of the insane, my experience has been sufficient to enable me to watch the workings and witness the intolerance of this board that would be almost out of place in Russia.

Numerous well-informed lawyers have frequently attested to the unconstitutionality of the autocratic laws of this body, which strike directly at the root of professional confidences, the well-being of patients, and the right to practise medicine which is conferred by the laws of this State. Even the form of commitment which is issued by the State Commission of Lunacy is not only stupid and impractical, but far inferior to that framed by Dr. Ordronaux, and obliges the physician committing to betray—if he knows them—professional confidences made by members of the patient's family. The notoriously cruel and injudicious rule which permits one of the lay members of the commission to visit the asylums and tell the people they are insane, we believe to be needlessly severe and foolish, and the regulations prescribed for the management of private asylums, with the alternative of a withdrawal of the license, are a distinct infringement upon personal rights. Several of my friends who have private institutions have meekly submitted rather than suffer, and the instances of professional discourtesy which a large number of physicians endure call for some abridgment of power of those gentlemen who make their own laws. I am loath to believe that the medical member who is in the minority is responsible for the obnoxious methods of his associates; but as a physician he is certainly responsible for allowing himself to be used to injure and insult a large number of his professional brethren.

It is hoped that some action will be taken before the present Legislature adjourns, and physicians generally are invited to forward their grievances to the undersigned.

ALLAN MCLANE HAMILTON, M.D.

20 EAST TWENTY-NINTH STREET, March 29, 1892.

THE COUNTRY WAY OF DOING IT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of February 20, 1892, on page 222, will be found a clipping from the *College and Clinical Record*, which represents Professor Parvin as advocating the use of the ordinary male catheter instead of the female for catheterization of the female bladder.

It seems to me that owing to the wide circulation given this by the RECORD, and the well known ability of Professor Parvin as an author and teacher, it ought not go unchallenged.

Many readers of the RECORD are, like myself, country doctors. They are especially interested in this subject inasmuch as their female patients are, as a rule, very sensitive about any exposure of these parts, and are very much afraid of being hurt.

If by "ordinary male catheter" Professor Parvin means the one ordinarily carried by a physician in his pocket case, he means the silver catheter, which of course is hard and is more difficult to pass than the silver or glass female catheter. If he means the soft rubber male catheter, it is more difficult to pass into the female bladder than is a hard catheter. The catheter known as the "Glasgow Linen," with short blunt point, is as easily passed, perhaps, as the silver or glass one, but not any easier. Then why change the catheter or carry an additional one or more?

In an active practiee of over ten years I have been compelled to catheterize many women. I have tried all kinds of catheters and find the ordinary silver or glass female catheter the easiest for both patient and physician. The physician who needs to expose a female in order to catheterize her with any style of catheter has had very poor college training or should change his occupation. The reader would infer from the clipping referred to that Professor Parvin introduces a vessel into the bed to receive the contents of the bladder about to be catheterized. If such is a true inference the country doctor can give his city friend a point worth knowing.

The countryman, who of course carries "hayseed in his hair," carries also in his pocket-case, his buggy-case, or his hand-satchel, about four feet of small gum tubing. One end of this he applies to the catheter before introducing it. The other end he places in a vessel under the bed. In this way he can catheterize his female patient "without soiling the clothes or necessitating any exposure of the patient." It is better than any form of catheter alone, for he runs no risk of soiling patient or clothes by accident, or awkwardness on the part of either his patient or himself.

Yours truly,

SPENCER M. FREE, M.D.

New Instruments.

A NEW BABY INCUBATOR.

BY EDWARD J. BROWN, M.D.,

MINNEAPOLIS, MINN.

I HAVE lately had an experience in rearing an immature infant which may be of interest to the profession. The child, a healthy and well-formed male, was born September 3, 1891, at the close of the seventh month of gestation. No discoverable cause for the premature birth existed. Labor was of twenty-two hours' duration, and owing to a brow presentation instrumental delivery was necessitated, which was skilfully performed, and without accident, by my family physician, Dr. John A. Crosby.

The child weighed 4½ pounds net and was 18½ inches in length, presenting abundant evidence of immaturity.

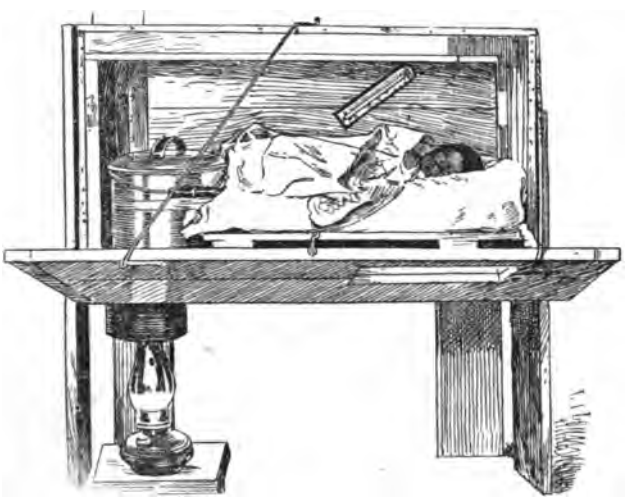
In view of the immaturity and the symptoms resulting from pressure, the prognosis seemed extremely grave. Consequently I devised and constructed an incubator as a means of affording the most favorable possible conditions in the way of uniform warmth, abundance of fresh air, and freedom from draughts. I had seen in the MEDICAL RECORD, some months previously, the statement that an incubator had been invented and patented in Paris, and that two of the machines had been brought to New York. As I could find no descriptive data to aid me, I devised, during an idle office hour, and constructed in the evening, mainly from such materials as the family lumber-room afforded, an incubator which has served a most excellent purpose.

On September 8th, when five days old, the child was placed in his box for two weeks, wrapped in cotton and afterward dressed, lying upon a soft hair mattress covered with cotton. He was taken from the box every two hours

the first month, and every three hours the second month, fed and changed, and with a daily bath required absolutely no further attention. For two weeks he was fed with breast milk from a spoon and afterwards was able to nurse. In six weeks he had doubled his weight, weighing 9 pounds. When he left the incubator at the end of eight weeks he weighed 10¾ pounds and measured twenty-two inches, and now, at the end of five months, weighs 17½ pounds and measures twenty six inches.

The temperature of the interior of the box was maintained at from 86° to 90° F. during the first month, and gradually lowered to 80° F. during the second. A slight coryza lasting a few days was the only noteworthy event of the whole two months.

The complete incubator consists of a packing box 33 inches long, 21 inches high, and 12 inches wide, inside measure; a false bottom upon which the mattress is placed, and under which the fresh air is admitted, through an opening 4 × 10 inches; a false top with opening over the child's head for escape of warm air; a three-gallon pail of water, and hot air and smoke flues. The bottom of the box has a hole cut in it to admit the pail, which rests upon a piece of sheet iron under which a lamp or gas-jet is placed. The sheet iron, one foot square, is nailed to the box. The heat from the lamp is concentrated under the pail by a six-inch section of stove-pipe, and the fumes conducted by a two-inch smoke-flue up through the four-inch warm air-escape, thus producing a constant and sufficient current of air through the incubator. The front of the box opens on hinges at the bottom and has a large glass window which affords a view of the child and the thermometer which hangs on the back wall. Filling the pail with water at about 120° F., an ordinary bracket-



lamp, with very slight attention, will maintain a uniform temperature 15° to 25° F. higher than that of the room. By covering the box with building paper and throwing a folded quilt over it, the temperature may be maintained with less heat from the lamp and consequently with a lower temperature of the pail of water. The pail may be fitted with a tight cover or with openings for evaporation if more moisture be desired in the air. The sheet iron need never be heated to such a point as to be objectionable.

It is easy to suggest improvements, but this incubator was made in an emergency, and I present it to the profession, not as an ideal, but as a simple, practical, labor and life saving device, which any clod-hopper ought to be able to construct in a few hours, and from such materials as are always at hand.

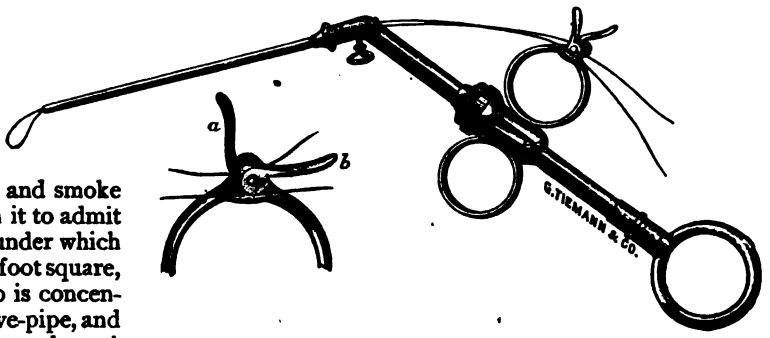
In conclusion, I will suggest that such an apparatus as I have described might be of great use also in cases of disease of the respiratory organs in weak infants where favorable conditions of temperature and freedom from draughts could not otherwise easily be secured.

MINNEAPOLIS, February 3, 1892.

NEW METHOD OF FASTENING THE WIRE IN [illegible] SNARES.

BY E[illegible]MAN, M.D.,
[illegible], N. Y.

IN the best of nasal snares the manner of fastening the ends of the wire is oftentimes a source of annoyance and delay, especially so when in the midst of an operation it becomes necessary to shorten the loop. My attempted improvement consists in catching the wire between an eccentric wheel, with an attached lever, and the flattened upper surface of the carriage, the opposing surfaces being roughened to prevent slipping. The modification was adapted to Hooper's snare and ecraseur, but it is also



applicable to any other instrument similarly constructed. The wire should be accurately placed and the lever pressed down with only moderate force.

In testing the instrument constructed for me by Tiemann & Co. the wire invariably broke before slipping from the "catch."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 9, 1892.

	Cases.	Deaths.
Typhus fever	7	2
Typhoid fever	11	5
Scarlet fever	250	36
Cerebro-spinal meningitis	6	7
Measles	502	32
Diphtheria	143	29
Small-pox	16	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Warming Railway Carriages.—The following item from *The Lancet* of recent date reads as though it had been written a quarter of a century ago instead of last month. It is amusing, but at the same time encouraging, for it gives evidence of real progress. It says, concerning the Midland Railway Company, that "quite recently their characteristic zeal for any change that tends to increase the amenities of travel has introduced what promises to prove a useful and economical method of carriage warming. Since the new year trains have been running between St. Pancras and Bradford in which a system of heating by means of pipes in direct communication with the engine has been carried out, so far with complete success. According to this arrangement the pipes can be filled either with steam or with hot water. A moderate average temperature can thus be maintained without trouble. When we contrast this apparently easy and obviously convenient process with the elementary and laborious method until now in common use, and remember that it has been employed in domestic heating for

many years past, we can only feel the more surprised that it has not sooner been applied where purpose above mentioned. It is to be hoped that a retrnall, as time goes on, have such confirmation of its l and ssful use as will ensure its general adoption by railway authorities. The advantage obviously resulting to the health as well as the comfort of travellers from the assured maintenance of an equable temperature in each carriage need not be insisted on."

Microcephalus.—Dr. John A. Wyeth, of New York, writes: "As a further contribution to the history of a case of microcephalus, which I operated upon and reported in your journal about a year ago, I wish to state that I have two letters from the mother of the child dated October 30, 1891, and January 5, 1892, in which she says, 'He pulls up by the chairs, goes the whole length of the bath tub by holding on the side; is fat, eats well, tries to talk, says "bye-bye" and waves his hand like other babies. We have taught him several little tricks which he remembers well. The only trouble I can see is his slapping his head with his hands. When he gets angry he just pounds it. His left eye is a little turned when he looks up, otherwise he is doing well; sleeps beautifully. I feel really encouraged over him.' I feel that I am justified in considering the improvement as wonderful in this case."

Insanity in Paris.—From a report recently issued by Dr. Paul Garnier, it appears that the number of cases of insanity registered at the Paris Prefecture of Police in 1888 was 4,449 as against 3,080 in 1872, being an increase of nearly one-third. The total number of insane persons known to the authorities in Paris for the seventeen years ending January 1, 1889, was 62,572, of whom 34,882 were men, and 27,770 women.

A Psychiatrico-Criminological Museum is to be established at the University of Turin, under the direction of Professor Cesare Lombroso. It is proposed to form a collection illustrating as far as possible the mental and physical characteristics of lunatics and criminals, and supplying the necessary materials for the scientific study of the various types of mental or moral abnormality. Among the objects collected will be skulls, skeletons, and brains of criminals, pathological specimens from the bodies of criminals and the insane, instruments for the study of insanity and for craniometry, plans of prisons and lunatic asylums, autographs of lunatics and criminals, materials for the geographical distribution and statistics of crime, etc.

Hazing in a Hospital.—A story appeared in a recent issue of an Edinburgh paper to the effect that for several years the various batches of residents at the Royal Infirmary had fallen into the habit of practical joking, the writer asserting that "lately these performances have been getting rougher and more personal. The latest little pleasantry was a process of blistering. The victim was set upon by five or six men, against whom, of course, he had no chance, although it is said he struggled gamely, knocking one of his assailants down before he fainted. Other men have been bathed." The *British Medical Journal* was disposed to assume that the story was invented, or, at the least, very greatly embellished by the reporter, but upon making inquiries found that the story was true. "The gentleman subjected to this cowardly assault was taking temporary duty during the illness of one of the resident physicians. After having been subjected to one or more baths he became unconscious, and it is charitably supposed that the mustard was applied as a restorative."

Chronic Cystitis.—Dr. Tyson (*The Practitioner*, February, 1892) says the successful treatment of chronic cystitis is a difficult task for three evident reasons: 1. The constant presence in the bladder of the urine with its irritating qualities. 2. The difficulty of getting remedies to reach the inflamed surface. 3. The pent up inflammatory products, which in their decomposition often make the urine still more irritating by exciting in it ammoniacal changes. The irritating qualities may be diminished by diluents. The second indication is met by drugs internally, or by injections of medicated fluid. Sandalwood oil has been found useful, and is about the only remedy which the author has found to have a direct beneficial effect upon the mucous membrane of the bladder. Benzoic and boric acids have both been found to exert an antiseptic effect on the urine when given in five grain doses, and increased to ten. Where a foul odor is present a dilute solution of bichloride, beginning with one to twenty-five thousand and gradually increased in strength, is used as an injection into the bladder with good results. That an absolute and total cure is ever obtained in chronic cystitis is regarded by the author as exceedingly doubtful.

First Aid to the Injured in the French Army.—The French Minister of War has issued an order that henceforth every officer and every man in the French Army shall, when on active service, carry on his person material for a first dressing in case of his being wounded.

Vesical Tuberculosis.—Dr. Petit (*Annales de la Policlinique*, January, 1892), has found very beneficial effects in tuberculosis of the bladder from the combined internal and local employment of iodoform. Ten centigrammes are given in pill form by the mouth, and the bladder is injected with a teaspoonful of the following, suspended in 150 grammes of tepid water, to which is added ten drops of laudanum:

℞. Iodoform	.....	gm. 20.
Glycerine	.....	gm. 10.
Aq. dest	.....	gm. 6.
Gum tragacanth	.....	ctgr. 0.25.

Substances Incompatible with Antipyrin.—According to the *Pharm. Centralblatt* the following substances precipitate antipyrin from aqueous solution: 1, Phenic acid in concentrated solution; 2, tannin and tannic acid preparations; 3, tincture of iodine; 4, chlorides or mercury. The following decompose antipyrin when triturated with it in a dry state: 1, calomel, forming a toxic combination; 2, beta naphthol; 3, chloral, which forms an oleaginous liquid; 4, bicarbonate of soda (an acetic ether odor is given off); 5, salicylate of soda, also forming an oleaginous liquid; 6, the salts of quinine and caffeine, of which the solubility is increased by antipyrin.

The Treatment of Exophthalmic Goitre.—Dr. Fergusson has secured good effects from the use of strophanthus in the treatment of exophthalmic goitre. In nine cases in which he has used it the almost immediate disappearance of the cardiac symptoms permit the patients to renew their usual occupations. The pulse falls from 150 and over to 75 or 85. At the same time there is diminution in the exophthalmos and in the size of the thyroid gland on condition that the latter has not become fibrous from the long duration of the affection. The author does not affirm that the cure is positive, but he maintains that the amelioration is very considerable. Eight to ten-drop doses three times daily are recommended. In some cases he has increased the dose to twenty and twenty-five drops.

Infection in Furunculosis.—Dr. Preto (*Riforma Medica*, January 27, 1892) has made some researches from which he concludes: 1. The infection produced by the staphylococcus pyogenes aureus does not become generalized if there is elimination by the kidneys and skin. 2. If the staphylococcus is eliminated by the kidney it has a vitality below the ordinary, without our being able to say why. 3. The organism rarely succumbs to a general infection. 4. The chief therapeutic indication in such a case should be to increase by all possible means diaphoresis and diuresis. 5. Isolation of those affected, disinfection of the places in which they have remained and the clothing which they have worn is necessary to avoid contagion.

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Original Lectures.

PRESENT PROBLEMS IN EVOLUTION AND HEREDITY.

THE CARTWRIGHT LECTURES OF 1892.

(Continued from page 261.)

BY HENRY FAIRFIELD OSBORN, SC.D.,
DA COSTA PROFESSOR OF BIOLOGY IN COLUMBIA COLLEGE, NEW YORK.

LECTURE III.

HEREDITY AND THE GERM-CELLS.

ACCORDING to the general law[1] the germ-cell was considered as matter potentially alive and having within itself the tendency to assume a definite living form in course of individual development. The nucleus must be extraordinarily complex, for it contains within itself not only the tendencies of the present type, but of past types far distant. The supposition of a vast number of germs of structure is required by the phenomena of heredity; Nägeli has demonstrated that even in so minute a space as $\frac{1}{1000}$ cub. millimetre, 400,000,000 micellæ must be present.

The study of heredity will ultimately centre around the structure and functions of the germ-cells. The precise researches of Galton show that the external facts of heredity, questions of averages and of probabilities, of paternal and maternal contributions to the offspring, are capable of being reduced to an exact science in which mathematical calculations will enable us to forecast the characteristics of the coming generation.

There will still remain, however, a large residuum of facts which will present themselves to a mathematician like Galton as chance or inexact, such as: the physiological conditions of reversion; the causes of prepotency, by which the maternal or the paternal characteristics prevail in parts or in the entire structure of the offspring; the material basis of latent heritage upon which reversion depends, and which compels us to hypothecate either an unused hereditary substance or a return to an older disposition of the forces in this substance; the nature and determination of sex. These apparently chance phenomena must also be due to certain fixed laws, and by far the most promising routes to discovery have already been taken by Van Beneden, the Hertwig brothers, Boveri, Maupas, and others.

They have attacked the problem of the relation of the germ-cells to heredity on every side, and by the most ingenious and novel methods, which are familiar enough in various branches of gross anatomical and physiological research, but seem almost out of the limits of application to minute microscopic objects. For example, the Hertwig brothers have ascertained the influences of various solutions of morphine and other drugs, of the alcohols, and of various degrees of temperature upon the ovum and spermatozoon during the conjugation period, with results which are highly suggestive of the causes of congenital malformations, anomalies, and double births. The Hertwigs and Boveri have succeeded in robbing ova of their nuclei and watching the results of the subsequent entrance of spermatozoa. In order to further test the relations of the nucleus to the remainder of the cell, Verworn has experimented along the same line with extirpations of every kind from the single cells of Infusoria. Of equal novelty are the recent studies of Maupas upon the multiplication and conjugation of the Infusoria, giving us a host of new ideas as to the cycle of life, the meaning of sex, and the origin of the sexual relation.

In all this research and in the future outlook there are two main questions:

1. *What is the hereditary substance?* What is the material basis of heredity, which spreads from the fertilized ovums to every cell in the body, conveying its ancestral characteristics? Is there any substance corresponding to the hypothetical idioplasm of Nägeli?

2. *What are its regulating and distributing forces?* How is the hereditary substance divided and distributed? How far is it active or passive?

I may say at the outset that the idioplasm of Nägeli, a purely ideal element of protoplasm which he conceived of as permeating all the tissues of the body as the vehicle of heredity, has been apparently materialized in the *chromatin* or highly coloring materials in the centre of the nucleus. This rests upon the demonstration by Van Beneden and others that chromatin is found not only in all active cells, but is a conspicuous element in both the ovum and spermatozoon during all the phenomena attending conjugation.

Secondly, that while the chromatin is apparently passive, it is played upon by forces resident in the clear surrounding protoplasm of the nucleus, but chiefly by the extra-nuclear *archoplasm*, which seems to constitute the dynamic and mechanical factor in each cell. This, unlike the chromatin, only comes into view when there is unusual activity, as during cell-division, and is not evident (with our present histological technique), at least, when the cell is arrested by reagents in the ordinary stages of metabolism.

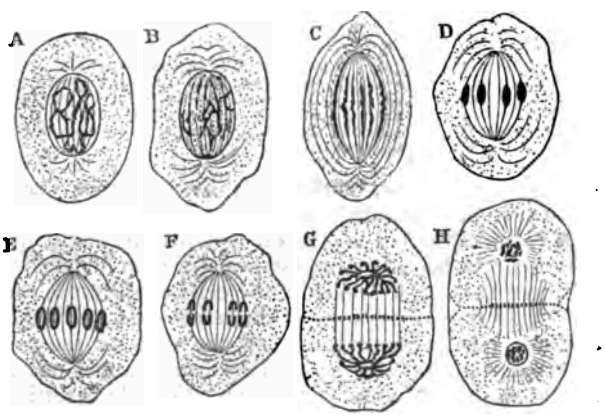

FIG. 7.—TYPICAL CELL DIVISION, SHOWING THE DISTRIBUTION OF CHROMATIN. (From Parker, after Carnoy.) A–C, Arrangement of the chromatin in threads; D–E, Formation of the chromatin rods and loops; F, Splitting of the loops; G–H, Retraction of the chromatin into the two daughter-cells.

The Distribution of Hereditary Substance.—I may first review some of the well-known phenomena attending the distribution of the chromatin substance to the tissues.

I have borrowed from Parker figures by Carnoy to illustrate the resting and active stages of the cell, and from Watase, a Japanese student of Clark University, figures representing the high differentiation of the cell-contents during division (Figs. 8, 9). They bring out the active and passive elements of the typical cell.

The phenomena of karyokinesis which attend the division and distribution of the hereditary substance through-

[1] See Huxley, Article Evolution, Enc. Britannica, p. 746.

out the whole course of embryonic and adult development are well illustrated in Carnoy's figures (Fig. 7). First we have the quiescent period, in which the chromatin presents the appearance of a coiled, tangled thread; surrounding this is the clear nucleoplasm (or achromatin) bounded by the nuclear membrane; the extra-nuclear substance, or cytoplasm, is apparently undifferentiated. As soon as cell division sets in, however, radiating lines are seen in the cytoplasm above and below the nucleus, these are called the archoplasmic filaments by Boveri, since they proceed from what is now believed to be the dynamic element, the archoplasm (Fig. 8). As the activity becomes more intense the filaments are seen to diverge from a centre—the archoplasmic *centrosome*—which lies just without the nucleus at either pole; this radial display of cell-forces suggested the term "asters" to Fol, and "spheres attractive" to Van Beneden. The behavior of the chromatin, or hereditary substance, under these archoplasmic forces, is beautifully shown in Carnoy's diagrams (Fig. 7). First, the nuclear wall breaks up, then the chromatin coil unfolds into lines of vertical striation which become thread-like, hence the term mitosis, and

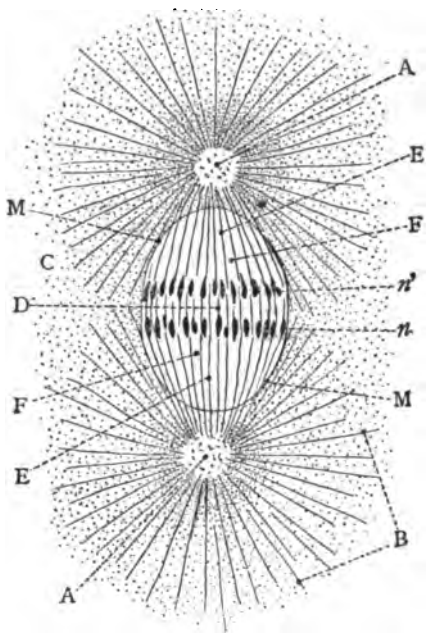

FIG. 8.—BEFORE DIVISION. DIFFERENTIATION OF THE CYTOPLASM AND NUCLEUS DURING CELL DIVISION OF A SQUID EMBRYO, LOLIGO. (After Watase.) M. The nuclear membrane; F, Achromatin or nucleoplasm; C. Cytoplasm, or protoplasm outside of the nucleus; A–A, The two centrosomes of archoplasm; B, Extra nuclear archoplasmic filaments; E, Intra-nuclear archoplasmic filaments attached to *n*, *n'*, the chromatin rods.

then more compact, until finally a number of distinct vertical rods, chromatin rods, or *chromasomes* are found.

A remarkable and significant fact may be noted here, that the number of chromosomes varies in the cells of different species, and even in the cells of different varieties (as in the thread-worm of the horse—*Ascaris megalocephala*), but is constant in all the cells of the same variety through all stages; thus the same number of chromosomes appears in the first segmentation of the fertilized ovum as in the subsequent cell division in the tissues.

Carnoy next indicates the vertical splitting of each rod into a loop or link preceding the horizontal splitting; thus we may conceive of a thorough redistribution of the chromatin before it passes into the daughter-cells. The split loops are each retracted toward a centrosome, suggesting to some authors a contractile power in the archoplasmic filaments; each chromosome being apparently withdrawn by a single filament. But as the chromasomes separate, the filaments also appear between them, and are variously termed "interzonal," "verbindungs fäden," "filaments réunissant;" there is, therefore, some difference of opinion as to what the mechanics of the chromosome divisions really are. The chromatin is now retracted into two coiled threads, each the centre of the daughter-nucleus with a single centrosome beside it. But as the line of cleavage is drawn between the two cells (Fig. 9), the single centrosome in each cell divides so that each daughter-cell is now complete with its chromatin coil and two archoplasmic centrosomes. This process has been beautifully described by Watase.[1]

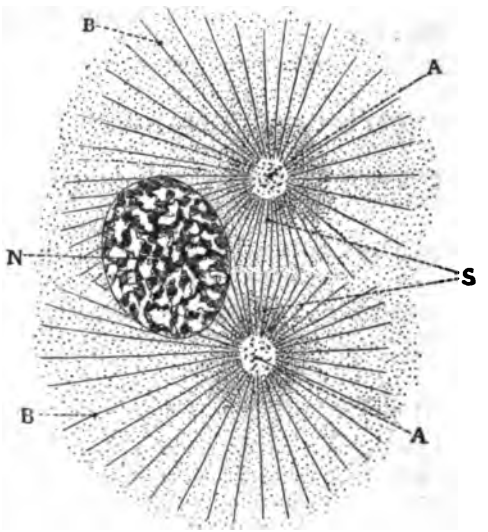

FIG. 9.—AFTER DIVISION. INTERIOR OF A DAUGHTER-CELL IN THE SQUID. (After Watase.) Division has just taken place and the daughter-nucleus, N, shows the chromatin coil. The daughter centrosome is just forming two new centrosomes, A–A, by direct division.

It thus appears that both the chromatin and archoplasm are permanent elements of the cell, such as we formerly considered the nucleus; the apparently passive chromatin is divided with great precision by the active archoplasm, then the archoplasm simply splits in two to resume the cleavage function.

Fertilization—the Union of Hereditary Substances.—Before looking at the host of questions which fertilization suggests, let us review a few of the well-known phenomena preparatory to the union of the germ-cells, in order to give greater emphasis to the importance of recent discoveries.

First, the ovum is a single cell, the typical structure of which, with its nucleus and cytoplasm, is generally obscured by a quantity of food-material, surrounded by a rather dense cell-wall. The ovum is said to be ripened or "matured" for the reception of the spermatozoon, by the extrusion of two small "polar bodies," containing both chromatin and hyaline protoplasm, and separating off by karyokinetic division. After maturation is complete, a single spermatozoon normally penetrates; then a reaction immediately sets in in the cell-wall of the ovum which prevents other spermatozoa from entering. The head of the spermatozoon and the nucleus of the ovum now fuse together to form a single nucleus, which it is obvious contains the hereditary substance of two individuals. This is the starting point of the segmentation or distribution process above described, and it follows that the fertilized ovum at this stage must contain its typical complement of chromatin, archoplasm, etc., for the whole course of growth to the adult.

How shall we connect these phenomena of fertilization with the facts of heredity? The most suggestive enigma in connection with the fertilization process has been *the meaning of the two polar bodies*, especially since Van Beneden demonstrated that they contained chromatin? For twenty-five years speculation has been rife as to why the ovum should extrude a portion of its substance in two small cells; why not in one cell? why not in a larger number? Thanks to the intense curiosity which these polar bodies have aroused, and to the great variety of explanations which have been offered for them, we have

[1] See Marine Biological Laboratory Lectures, 1889. Boston: Ginn & Co.

arrived to-day at a solution which links the higher animals with the lower, breaks down the supposed barrier between the sexes, and accords with the main external facts of heredity. It seems to me best to disregard the order of discovery, and to state the facts in the most direct way. First, a few words as to the speculations upon the meaning of the polar bodies.

The early views of fertilization[1] were naturally based upon the apparent significance of this process in the human species, in which the sexes are sharply distinguished from each other in their entire structure, and the reproductive cells are also widely differentiated in form, the ovum large and passive, the spermatozoon small and active. The readiest induction was to regard these elements as representing distinct physiological principles, corresponding to the essential sexual characteristics—in short, as male and female cells, the former vitalizing and rejuvenating the latter. Thus one of the earliest definite "polar-body" theories was that the ovum was hermaphrodite, containing both male and female principles, and that it was necessary to get rid of the male substance before the spermatozoon could enter.

As Von Siebold and Leuckart had demonstrated that some ova reproduce parthenogenetically, that is without fertilization by spermatozoa, Weismann turned to such forms for the solution of this problem, and was surprised to find that parthenogetic ova only extrude one polar body; this led him to attach one meaning to the first polar body, and another meaning to the second, which he viewed as designed to reduce the hereditary substance in the ovum without regard to sex. Thus both this and the older theory conveyed alike the idea of *reduction*, but with an entirely different supposition as to the nature of the material reduced or eliminated.

Maupas on Conjugation among the Infusoria.[2]—Among the newer researches which throw light upon this old problem, those of Maupas are certainly the most brilliant. After a most exact and arduous research, extending over several years, he collected his results in two memoirs, published in 1889 and 1890.

His experiments were first directed upon the laws of direct multiplication by fission, which revealed a complete cycle of life in the single-celled Infusoria and showed that after a long period this mode of reproduction becomes less vigorous, then declines, and finally ceases altogether unless the stock is rejuvenated by conjugation of individuals from different broods. In other words, these broods of minute organisms grow old and die unless they are enabled to fertilize each other by an exchange of hereditary substance altogether analogous to that observed in the higher multicellular organisms.

The cultures were made in a drop of water upon a slide, and feeding was adapted either to the herbivorous or carnivorous habits of the species. Under these conditions it was found that the rate of fission or direct multiplication varied directly with the temperature and food, rising in some species (*Glaucoma scintillans*) to five bipartitions daily. With the optimum of conditions this rate, if sustained for thirty-eight days, would produce from a single individual a mass of protoplasm equivalent to the volume of the sun. This rate is, however, found to be steady for a time, and then the offspring decline into "senescence," in which they appear at times only one-fourth the original size, with reduced buccal wreaths and degenerate nuclear apparatus. Finally, even under the most favorable conditions of environment, death ensues. This is reached sooner in some species than in others; *Stylonichia pustulata* survives three hundred and sixteen generations or fissions, while *Leucophrys patula* persists to six hundred and sixty generations.

Not so where conjugation is brought about by mingling the offspring of different broods in the same fluid, as in the natural state. Maupas soon discovered that exhaustion of food would induce conjugation between members of mixed broods. He thus could watch every feature of the conjugation process, and determine all the

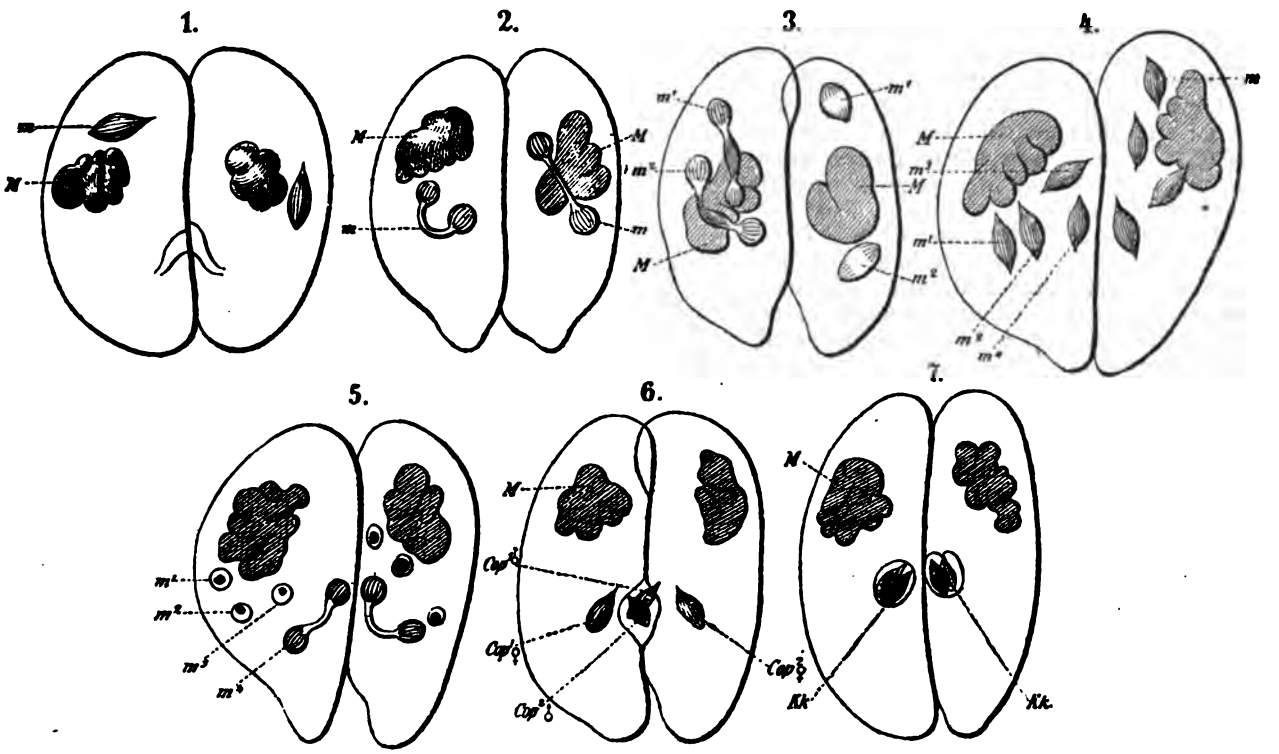

FIG. 10.—THE CONJUGATION OF INFUSORIA. (From Weismann, after Maupas.) 1, Two infusoria uniting; *M*, meganucleus; *m*, micronucleus; 2–5, Successive divisions of micronuclei; 6, The migration of one of the persisting micronuclei from each infusorian into the other; 7, Union of the interchanged micronuclei.

phases in the cycle of life. These differed, as in the longevity of the species. In *Stylonichia*, for example, "immaturity" extended over the first one hundred bipartitions; "puberty," or the earliest phase favorable to conjugation, set in with the one hundred and thirtieth bipartition; "eugamy," or the most favorable conjugation phase, extended to the one hundred and seventieth; then "senescence" set in, characterized by a sexual hyperæs-

[1] See also the introduction of Weismann's last essay, Amphimixis.

[2] Sur la multiplication des Infusoires Ciliés, Archiv. de Zoologie expérimentale, Sér. 2, vol. vi., pp. 165–273; Le Rajeunissement Haryogamique chez les Ciliés, vol. vii., pp. 149–517. See also Cartoy, Quart. Journ. Microscop. Science, December, 1891.

thesia in which conjugation was void of result or rejuvenescence, owing apparently to the destruction of the essential nuclear apparatus.

Conjugation begins with the approach of two individuals, and adhesion by their oral surfaces. There is no fusion, but an immediate transformation in the cell contents of each individual sets in, concluding with an interchange of nuclear substance. In each cell Maupas distinguishes between the (*M*) *meganucleus* (Fig. 10, the macronucleus, nucleus, endoplast of authors), which presides over nutrition and growth and divides by constriction, and the (*m*) *micronucleus* (paranucleus, nucleolus, of authors), which presides over the preservation of the species. The latter contains chromatin; it is the seat of rejuvenescence, the basis of heredity, it divides by mitosis, showing all the typical stages of karyokinesis excepting the loss of the cell membrane.

The transformation in each of these copulating cells first affects the centres of hereditary substance, viz., the micronuclei; they divide three times; thus the micronuclear substance is reduced to one-fourth of its original bulk. It is contained in two surviving micronuclei (the others being absorbed or eliminated), one of which migrates into the adjoining cell; the other remains stationary. This migration is followed by a fusion of the migrant and stationary micronuclei: this fusion effects a complete interchange of hereditary substance, after which the two infusoria separate and enter upon a new life cycle. Meanwhile the meganucleus breaks up and is reconstituted in each fertilized cell.

Maupas gathers from these interesting phenomena additional proof that the chromatin of all cells bears the inherited characteristics and that the cytoplasm and nucleoplasm, or achromatin, is the dynamic agent, because the micronuclei bearing the chromatin are the only structures which are permanent and persistent, all the other structures—nucleoplasm, archoplasm, etc.—being replaced and renewed. The reduction of the chromatin is purely quantitative, the eliminated and fertilizing micronuclei being exactly equivalent; after the chromatin has been quartered the cell becomes incapable of further activity until it is reinforced by chromatin from the copulating cell.

No Distinction between the Sexes in Heredity.—The three laws which underlie these phenomena are: 1. That fertilization consists in the union of the hereditary substance of two individuals. 2. That before union the hereditary substance in each is greatly reduced. 3. That there is no line between male and female, the conjugating cells are simply in a similar physiological condition wherein a mingling of hereditary characteristics affords a new lease of life. As Maupas says:

"Les différences appelées sexuelles portent sur des faits et des phénomènes purement accessoires de la fécondation. La fécondation consiste uniquement dans la réunion et la copulation de deux noyaux semblables et équivalents, mais provenus de deux cellules distinctes."

In this conclusion as to the secondary and superficial, rather than fundamental, difference between the two sexes, Maupas simply confirms the views of Strassburger, the botanist, Hensen, B. and O. Hertwig, Weismann, and others, namely, that sex has evolved from the necessity of cell conjugation; that even in the higher forms the cells born by the two sexes are absolutely neutral so far as sex is concerned, the wide difference of form of the germ cells is a result of physiological division of labor—the mass and yolk of the ovum having been differentiated to support the early stages of development while the spermatozoon has dispensed with all these accessories and acquired an active vibratile form for its function of reaching and penetrating the ovum. The evidence of the Infusoria is paralleled among some of the plants, in which conjugation between entirely similar cells is observed.

The causes finally determining sex may come surprisingly late in development, and according to the investigations of Düsing and the experiments of Yung[1] and of Giron are directly related to nutrition. High feeding favors an increase of the percentage of females, while, conversely, low feeding increases the males. In Yung's experiments with tadpoles the following results were obtained:

	Females.	Males.
Normal percentage	57	43
High nutrition	92	8

Geddes expresses this principle in physiological terms of metabolism, that anabolic (constructive) conditions produce females, while katabolic (destructive) conditions produce males.

I think we may now safely eliminate the factor of sex from our calculations upon the problem of heredity, and thus rid ourselves of one of the oldest and most widespread fallacies. We shall thus, in using the terms "paternal" and "maternal" imply merely the distinction between two lines of family descent.

The Theory of Reduction.—This leads us back to the significance of the polar bodies. Van Beneden's discovery that these bodies contained chromatin led gradually to the view that they were not fragments of the ova, but represented minute, morphologically complete cells. Bütschli showed that they were given off independently of, and prior to, the contact of the spermatozoon, and, finding in the leeches that the first polar body subdivides to form two bodies, he considered them as formed by true cell division, and containing both nucleoplasm and chromatin. Giard independently reached a similar opinion, assigning an atavistic meaning to the polar cells. Whitman, in 1878, advanced the idea that they represented vestiges of the primitive mode of reproduction by fission, while Mark described them as "abortive ova."

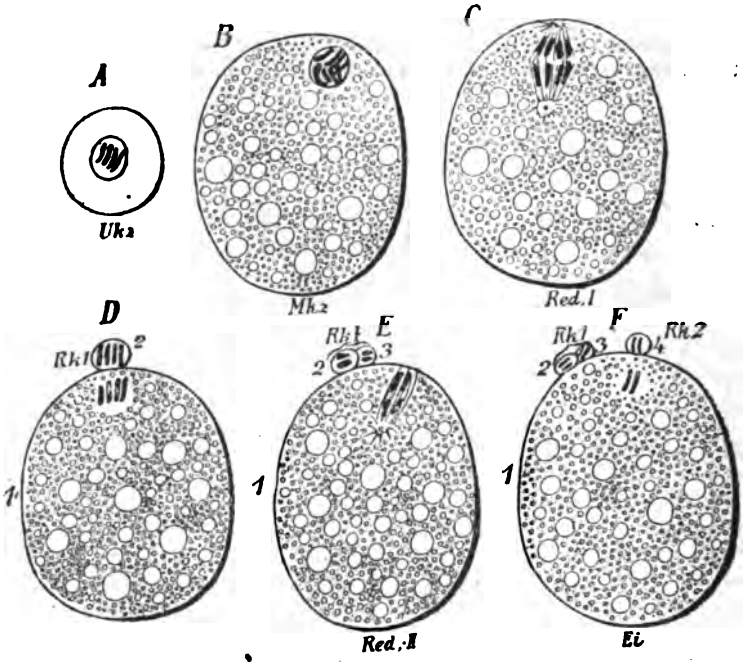

FIG. 11.—THE MATURATION OF OVA, OR FORMATION OF POLAR BODIES IN ASCARIS. (From Weismann after Hertwig.) A, original germ-cell in embryonic germ-layer—4 chromatin rods; B, Ovum mother-cell—8 rods; C–D, First polar body extruded; E, Splitting of first polar body. Ovum still contains 4 rods; F, Second polar body extruded. Ovum mature with 2 rods.

At this point speculation subsided until it was revived by Weismann's attempt to connect these bodies with his

[1] See Geddes and Thomson: The Evolution of Sex, 1891; also, Düsing: Die Regulierung des Geschlechtsverhältnisses bei d. Vermehrung der Menschen, Tiere und Pflanzen, Jen. Zeit. f. Natur, Bd. 17, 1884.

theory of heredity,[1] already referred to. The whole question is clearly given in R. Hertwig's masterly memoir upon Ovo and Spermatogenesis in the Nematodes.[2] Taking advantage of Boveri's discoveries in staining technique, and stimulated by Weismann's prediction that spermatozoa would also be found to extrude polar bodies, this author examined all stages in the peculiarly favorable germ cells of the thread-worm of the horse (*Ascaris megalocephala*).

He made the surprising discovery that ova and spermatozoa are formed in a substantially similar manner by repeated divisions, the single difference being that the last products of division among the sperm-cells are effective spermatozoa, capable of development in fertilization, while the last products of division in the ovary are, first, the true ova, and second, the abortive ova (polar cells) incapable of development. In both ova and spermatozoa the nucleus contains but one-half the chromatin which a typical nucleus contains; in the case of *A. megalocephala* each of the germ-cells contains but two chromasomes while the normal body-cells contain four. The manner in which this maturation of the germ-cells for conjugation is brought about is beautifully shown in these diagrams, taken from Weismann's essay, "Amphimixis." You observe that the number of chromasomes in the primary germ-cells is four (Fig. 12). Then are formed by subdivision the ovum and sperm "mother cells," in which the chromatin substance is doubled, so that we observe eight chromasomes. The mother-cells then divide and the chromatin is reduced to four rods, a second division rapidly follows whereby the chromatin is reduced to two rods, or half the original quantity. These last divisions take place by karyokinesis, but, as Hertwig points out, they differ from typical karyokinesis in the fact that the divisions follow so rapidiy upon each other that the vesicular resting-period of the nucleus is omitted. Thus, he suggests, is prevented an over-accumulation of chromatin substance prior to the fusion of the ovum and sperm. It is evident that the polar-cells are rudimentary ova, which do not possess the yolk-mass, etc., essential to development, and are divided off at a very late stage, sometimes after the egg has left the ovary, but are in other respects analogous to the spermatozoa. The reason these polar-cells have not disappeared altogether in either plants or animals is that they originally possessed a deep physiological importance. As the first polar-cell subdivides and forms two, it follows that from both ovum and sperm mother-cells four daughter-cells are formed, each containing half the chromatin substance of a normal nucleus, in the ovary three of these daughter-cells abort and the fourth forms a true ovum; in the sperm-gland, however, all four daughter-cells form spermatozoa.

We may thus consider the polar-cell problem as in all probability settled; the whole process is probably an inheritance or survival of a primitive condition in which all four ova, like the four spermatozoa, were fully functional.

The Relation between the Chromatin and Heredity.—We have just seen that the last stages in the preparation of the ova and spermatozoa for conjugation result in halving the number of rods in the original germ-cells. Now, as Hertwig and Weismann point out, one point is still left in doubt. Why is the chromatin substance doubled in the mother-cells so that two successive subdivisions are necessary to reduce it to half the original quantity? Hertwig has not attempted to answer this question, as he prefers to wait for further research. Weismann, however, who is unfortunately cut off from research by failing eyesight, has offered a speculative solution to this problem which he trusts may guide future investigation.

This leads me to say a few words in regard to his conception of the relation of the chromatin to heredity. 1. His first premise is that in fertilization there is not a fusion of chromatin but that a certain independence is preserved between the maternal and paternal elements, based upon the observed fact that the two pairs of rods do not fuse but lie side by side, and upon the assumption that these pairs

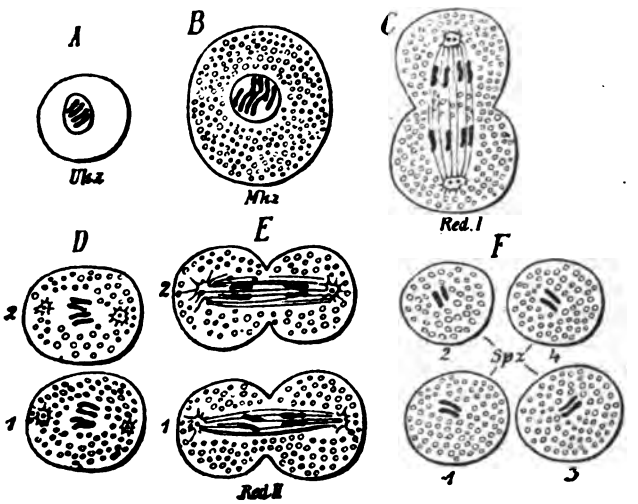

FIG. 12.—SPERMATOGENESIS IN ASCARIS. (From Weismann after Hertwig.) A, Original germ-cell—4 chromatin rods; B, Sperm mother-cell—8 rods; C–D, First daughter-cells with 4 rods each; E–F, Formation of second daughter-cells, or mature spermatozoa, with 2 rods each.

are kept distinct in each cell through all the subsequent stages of embryonic and adult development. If this is the case, the hereditary substance contributed by the father would remain separate from that contributed by the mother, throughout. 2. "Each of these pairs would be made up of the collective predispositions which are indispensable for the building up of an individual, but each possesses an individual character, for they are not entirely alike. I have called such units "ancestral plasms," and I conceive that they are contained in numbers in the chromatin of the mature germ-cells of living organisms, also that the older nuclear rods are made up of a certain number of these. . . . Obviously these units cannot become infinitely minute; however small they may be they must always retain a certain size. This follows from the extremely complicated structure which we must without any doubt ascribe to them." These units are not, however, ultimate, they are in turn extremely complex, and are composed of countless biological units of the kind conceived of by Nägeli and others. 3. The reduction of the chromatin only acquires a meaning when taken in connection with the above supposition of distinct ancestral plasms, and has no meaning if we accept Hertwig's view that there is a complete fusion of maternal and paternal germ-plasm. This meaning is that reduction in the maturation of germ-cells is *sui generis*, it does not divide the ancestral plasms into two similar groups, but one daughter-cell receives one set of germ plasms or hereditary predispositions, and another daughter-cell receives another; reduction is thus differential. According to this view the four sperm and ovum daughter-cells would each contain a different set of ancestral plasms. 4. The fact that the chromatin substance is doubled in the sperm and ovum mother-cells, so that we observe double the number of rods characteristic of the species, is to be explained as an adaptation to the requirements of natural selection, for this doubling and subsequent double division render possible an infinite number of combinations (as many, in fact, as there are individuals) for Selection to operate upon.

This explanation of Weismann's is an example of his apotheosis of the theory of natural selection. Every process is made to suit this theory, which, as we have seen in the first and second lectures, is, in his opinion, the exclusive factor of evolution. But this very high degree of mingling and remingling of ancestral predispositions would be fatal to evolution, for after a combination favorable to survival had been established in one generation

[1] On the Number of Polar Bodies and their Significance in Heredity. 1887.

[2] Ei und Samenbildung bei Nematoden, Archiv. f. Mikr. Anat., Bd. 26, 1890.

it would be broken up into a new combination, perhaps unfavorable to survival, in the next generation. This entire essay upon "Amphimixis," or the theory of mingling of reduced hereditary substance, will, I believe, mark a turning point to decline in Weismann's influence as a biologist. His whole reasoning is now in a circle around natural selection.

The Meaning of Conjugation.—Weismann looks upon sexual reproduction as designed to mingle hereditary tendencies and to create individual differences whereby natural selection may form new species. It is evident that these combinations must be mainly fortuitous and productive of indefinite variation; but we have seen that evolution advances largely by the accumulation of definite variations, or those in which each successive generation exhibits the same tendencies to depart from the typical ancestral form in certain parts of the body, and that these tendencies stand out in relief among the diffused kaleidoscopic or fortuitous anomalies.

The fact, moreover, that variability and evolution by the accumulation of certain variations in successive generations is also observed in organisms which reproduce asexually, both among plants and animals, shows that we must look in another direction for the underlying cause or purpose of sexual reproduction. Weismann rightly combats the old idea of "vitalization" of the ovum by the spermatozoon, and it is perfectly evident from the researches of Maupas and Hertwig that the ovum may as accurately be said to vitalize the spermatozoon as the reverse. Fecundation is simply the approximation of two hereditary substances of distinct origin and their incorporation into a single nucleus. The action and reaction of these substances may be considered equal and mutual, so far as we now know.

The remarkably ingenious experiments of Hertwig and Boveri, above alluded to, strengthen this idea. Some years ago Weismann wrote: "If it were possible to introduce the female pronucleus of an egg into another egg of the same species, immediately after the transformation of the nucleus of the latter into the female pronucleus, it is very probable that the two nuclei would conjugate just as if a fertilizing sperm nucleus had penetrated. If this were so, the direct proof that egg-nucleus and sperm-nucleus are identical would be furnished." Boveri succeeded in accomplishing a similar feat by depriving an ovum of its nucleus and subsequently causing it to develop by admitting *two spermatozoa which fertilized each other and produced a complete individual!*

In opposing the vitalizing properties of the sperm, Weismann, however, went further, and advocated the view that there is nothing in the nature of vitalization or "rejuvenescence" in conjugation—that, given proper environment, protoplasm is immortal, and runs upon a course of undiminished activity. This we have seen is not the case in the infusoria, and, as recently remarked by Hartog, there is only one class of organisms which, according to our present knowledge, are completely agamous and immortal—namely, the Monadina. It may in future appear that even in the monads there is a cycle for the development in which conjugation plays its part.

Maupas's experiments seem to establish the primitive, and therefore the true, interpretation of the purpose of conjugation as well as of sex, the latter being a consequence of the former, namely, that after a long period of direct subdivision of hereditary material from a single individual, a limit is reached beyond which the forces of heredity are not reproduced in their original intensity unless combined with another set of similar forces of different origin. This combination restores the original intensity. It is objected to this that two sets of feeble forces cannot constitute one vigorous force, but this is met by the observed fact that such union does start a new life cycle, and is therefore rejuvenescent. We may regard this as the fundamental meaning of conjugation and the production of variations as entirely secondary.

The Distribution of the Chromatin.—We have now reviewed some of the main phenomena of fertilization; there still remains the relation of the hereditary substance to the future development of the individual. There is, first, the astonishing fact that, as the chromatin goes on dividing, its mass or volume remains apparently undiminished; that is, there is apparently as much chromatin in one of the many million active cells of the body as in the original fertilized ovum, and it is still an enigma as to the nature of this chromatin and its functions. Then there is the problem of the maternal and paternal elements in each cell; do they lie side by side or are they fused?

In plants De Vries[1] and others believe that all or by far the greater number of cells in the plant body contain the total hereditary characters of the species in a latent condition. Kölliker[2] has fully discussed this question and called attention to Müller's early views that, in spite of the physiological division of labor producing the tissues, the properties of all the tissues can be derived from the nuclear substance of a single tissue, as proved by experiments upon the lower animals. Weismann, on the other hand, has held that the course of development is marked by a constant qualitative distribution of his germplasm or hereditary substance, so that, so far as nuclear content is concerned, there are three forms of cells: 1, with nucleoplasm; 2, with nucleoplasm and germplasm; 3, with germ-plasm only. Kölliker opposes this idea and maintains that the "idioplasma" passes into all cells, in which it divides in course of development; step by step from the embryonic layers to the tissues, the constructive processes are under the direction of the nuclei containing this hereditary substance; it remains in every nucleus for a long period unaltered, in order to finally, here earlier, there later, impress its constructive forces. In certain elements, as in blood-corpuscles, epidermal scales, etc., it disappears, as the last product of division.

R. Hertwig takes a similar view; since embryonic and adult cell division is differential there must be a form of differentiation in the nucleus, but this does not consist in the total elimination of some qualities and survival of others, nor of a reduction in mass. The mass and the properties remain the same in every cell, the differentiation consists in the activity of certain elements in certain tissues. Thus we may say with De Vries, that different "pangene" may leave the nucleus and enter the cell in different tissues, or with Nägeli, that special "micellæ" come into activity at certain points; in other words, the potential of the nucleus is differently exerted. Here, again, we have the idea of patent and latent hereditary elements, such as appear in the entire individual upon a larger scale.

This is one of the most interesting problems for future investigation, but the direction of research will, I imagine, cover a larger area of cell-content than the nucleus, as we are now swinging back to regard the extra-nuclear archoplasm as an important factor in the process.

In the following paragraph Hertwig expresses his view of nuclear control and cytoplasmic differentiation:

"As I saw in the transformation of the nucleus during fertilization proof that it is the bearer of hereditary substance I recognized a great advance in the fact that the nucleus leaves in the same form in every cell, and in its vesicular capsule is somewhat removed from the metamorphoses of the cells. As Nägeli spread his idioplasm as a net-work throughout the whole body, so, according to my theory, every body-cell contained in its nucleus its quota of hereditary substance, while its specific histological peculiarities were to be regarded as its plasma-products."

The next question *is the fate of the maternal and paternal contributions to the ovum.* Here there is a wide difference of opinion. On the one side Van Bene-

[1] Hugo de Vries: Intracellulare Pangenesis. Jena, 1889.

[2] Die Bedeutung der Zellkerne für die Vorgänge der Vererbung, Zeit. f. Wiss. Zoöl., 1885. And, Das Karyoplasma und die Vererbung, op. cit., 1886.

den is the leader of those who regard each cell of the body as in a sense hermaphrodite; as we have seen, his views of maturation and the significance of the extension of the polar bodies were colored by this theory, for he regarded the germ-cells as hermaphrodite until one sex was eliminated. But now that the researches of Hertwig have given the last blow to Van Beneden's theory, and it follows that there can be no male and female chromosomes, there still remains room for the analogous view that the maternal and paternal chromosomes remain distinct throughout the course of development, not as sexual elements but as substances with the same racial and specific but different individual tendencies. Rabr, an eminent embryologist, shares this view, and it is supported by Boveri upon the observation that in each division the paternal and maternal elements are kept distinct, and in *Ascaris*, for example, two of the chromosomes of each division figure are paternal and two are maternal. In favor of this hypothesis we may place the following facts: 1st, that there are an even number of chromosome rods in all cells; 2d, that the number is constant throughout all the subsequent changes in the tissues; 3d, that the number is fixed for each species or variety; 4th, that the number is the same in each sex.

Against this *replacement* hypothesis we must consider the extreme complexity of the division process, and the long-resting, or thread stage, in which the chromatin lies in a confused coil. Further, Hertwig argues that if the elements are distinct we should find some evidence that the maternal or paternal part is atrophied or replaced, or excluded from the nucleus, for both parts cannot share alike in the control of the cell. These are Hertwig's grounds for supporting the "verschmelsungstheorie," or *fusion* theory, also advocated by Waldeyer, to the effect that by the complete union of the maternal and paternal substance a new product is formed; in this fusion the law of prepotency may come into play, causing one or the other parental tendencies to predominate, or there may be an even redistribution, whereby, as expressed by Hensen, "the hereditary substance of the son is not that of the father plus that of the mother, but is his own, with a new hereditary form resulting from the combination."

While suspending judgment between these two views as to the separation or fusion of the chromatin, we may appeal to the external phenomena of heredity for light upon the probabilities in the question. First, I refer to the very decided opinion of Francis Galton in regard to particulate inheritance; he is so impressed with the fact that we are made up bit by bit of separate structures derived from different ancestors that he has even suggested that the skin of the mulatto may not represent a fusion of white and black but an excessively fine mosaic in which the colors are so distributed as to give the appearance of blending. We do sometimes observe patches of color as evidence of uneven distribution. As Galton distinguishes two types of structures with reference to inheritance, viz., those which blend and those which do not blend, we might correlate these types with prepotency, replacement, and fusion. Where characteristics do not blend, as in eye-color, it is evident that, while the offspring must receive from both parents the material basis for the formation of the complete color of the eye, either the maternal or paternal material must be prepotent and exclude the development of the other; the logical inference is that the former actively replaces the latter; but it is not necessary that exclusion from the cell chromatin should follow. Now, while some blends seem to support the theory of fusion, the sum total of facts of heredity are strongly against this as a universal principle, for many maternal and paternal structures are preserved in their absolute integrity for generations without the least indication of mixture.

Cell Forces and Heredity.—We have thus far been considering only the chromatin as the heredity substance *par excellence*, and have disregarded for the time the archoplasm or dynamic material of the cell. If we advance upon the hypothesis that a typical cell contains the more or less passive chromatin, and the archoplasm playing upon this chromatin in course of every phase of redistribution, it seems *à priori* improbable that elements which are associated with every vital change should be dissociated in the phenomena of heredity. We might suppose that the mechanics of karyokinesis are exactly similar in every cell of one individual, but it is highly improbable that they should be exactly similar in two individuals. We should, therefore, anticipate the transmission of the chromatin and the archoplasm, implying by this term the dynamic centres especially connected with hereditary function as distinguished from the general functions of metabolism.

This leads us to look for a moment into the life of the cell in its totality. We owe to Dr. Max Verworn[1] a fresh treatment of this subject, based upon experimental researches among the Infusoria, mainly by the extirpation method. As his experiments included only the phenomena of living cells in which the chromatin substance was of course undifferentiated to the eye, he treats of the nucleus as a whole without distinction as to chromatin and achromatin. He concludes that the physiological importance of the nucleus is exhibited in its constant interchange of materials with the remainder of the cell body, only through this interchange does it influence the cell and control its life processes. The interchange is in triple currents, *a*, from outside of cell to cytoplasm; *b*, from cytoplasm to nucleus; *c*, from nucleus to cytoplasm. These movements of interchange are the expression of life phenomena. He compares the *rôle* of the nucleus to that of a cell organoid, like chlorophyll, as not constantly present but as invariably necessary to activity. Thus he believes even the most lowly organized cells have nuclear centres, and that even bacteria are differentiated into nuclear and extra-nuclear areas. Coupled with this idea of nuclear control is the somewhat paradoxical statement that the nucleus is not a dynamic centre, either automatic or regulating, and the conclusion that the nucleus alone cannot be the seat of fertilization and heredity, but both the nucleus and extra-nuclear protoplasm must constitute the material basis of heredity. This conclusion is in the direction of the general reaction of opinion which is now taking place against the centralization of cell-government in the nucleus.

Vague as they must necessarily be, our ideas of cell forces are somewhat further defined by the brilliant experiments of the Hertwig brothers upon germ-cell physiology and pathology, which are full of suggestion as to the causation of abnormalities in inheritance. These were begun in 1884 and were first directed to the influence of gravitation upon the planes of embryonic cell division, following up the experiments of Pflüger and Rauber. In 1885 the conditions of bastard fertilization were studied; in 1887 the causes of polyspermy or multiple fertilization; and in 1890 the effects of extreme heat and cold upon germ-cell functions.[2] In general the conclusions reached were that in the normal state there exist regulating forces in the ovum which prevent multiple fertilization or bastard fertilization (*i.e.*, by spermatozoa of other varieties), but these forces are neutralized where the life-energy of the cell is diminished by reagents or by extremes of temperature.

For example, in the normal state the entrance of a single spermatozoon produces a reaction in the ovum-wall preventing the entrance of other spermatozoa, but when the ovum is weakened by chloroform solution two or more spermatozoa enter before the reaction appears; in fact the degree of polyspermy is directly proportional to the intensity of the chemical, thermic, or mechanical disturbance of the ovum. Double fertilization or over-fer-

[1] Die Physiologische Bedeutung des Zellkerns, Archiv für Physiologie, 1891, pp. 113-115.

[2] Experimentelle Untersuchungen über die Bedingungen der Bastardbefruchtung. Jena, 1885. See series of papers in Jenaische Zeitschrift.

tilization has not in a single case resulted in the production of twins, so that Fol's supposition is negatived, although other forms may behave differently. The cell-function may be arrested at any stage by thermic influences; thus two pronuclei, paternal and maternal, about to unite can be held apart by lowering the temperature. Polyspermy also results from a lowered temperature. It is noteworthy that the conditions of bastard fertilization and polyspermy are different; chloroform produces the latter but not the former. Kupffer has, I believe, succeeded in producing twins, or rather two-headed monsters, by multiple fertilization in fishes.

These researches, although made with a different object, re-establish the older views as to the interdependence of nuclear and extra nuclear activities, and show that no sharp line of demarcation of function can be drawn between the nucleus as a centre of reproduction and heredity and the cytoplasm, and the cytoplasm as the seat of tissue-building and nutrition. In Boveri's discovery of the archoplasmic centres, or centrosomes, we find positive ground for this broader view. It is connected with the cell phenomena of heredity in the following manner:

While the union of the nuclei in fertilization is the most obvious feature, this union is dependent upon the archoplasm, which rearranges the nuclear elements. If the spermatozoon contains no archoplasm, this power cannot come from the paternal side; but Boveri shows that this is probably not the case and that the spermatozoon brings its centrosome with it, thus entering the ovum with both the paternal chromatin substance and the dynamic material. It is certain from this and from the observations of Roux that the sperm cell is now to be regarded as more than a mere nucleus, that it contains both nuclein and para-nuclein.

Intercellular Forces.—The forces within the different portions of the cell lead us to consider those which must exist between different cells. This is an obscure question at present; but, as I have observed in the close of the second lecture, it is an extremely important one in connection with the problem of heredity. As Professor Wilson writes, "My own conviction steadily grows that the cell is not a self-regulating mechanism in itself, that no cell is isolated, and that Weismann's fundamental proposition is false."

It is a long step between an *à priori* conviction and the demonstration by experiment of a correlation of forces between the cells. This seems to me a most important field of experiment. We have seen in Maupas's work that the contact of the Infusoria initiates a rapid series of internal changes; we have only to conceive of analogous changes taking place when two cells are not in actual contact, as in the phenomena of previous fertilization referred to in the second lecture. Hertwig and others have shown how gravitation is related to cell activity. Roux has destroyed half an embryo with a hot needle in the first stages of segmentation and followed the other half through the stages of subsequent development. Another clever experimenter has turned fertilized ova upside down during the early stages of development, and shown how the protoplasmic pole and yolk-pole forcibly change places. Driesch has traced the connection and meaning of the first plane of cleavage in the embyros of echinoderms. Wilson, in the larva of Nereis, has shown how a certain stage of division in one group of cells affects all the other groups. All these experiments are in the line of determining the relation which exists between internal cell forces and other natural forces. What we must now seek to determine is the relation of cell to cell throughout the body, in connection with the phenomena of heredity.

(To be concluded.)

Fasting for Sixty Days.—A man, ninety-four years of age, recently died in an Indiana town of voluntary starvation. For over eight weeks he is reported to have tasted no food nor stimulant.

Original Articles.

POISONING BY CREOSOTE.[1]

By W. FREUDENTHAL, M.D.,

NEW YORK.

The use of creosote internally has become so common since Sommerbrodt's[2] publication of a series of five thousand cases of tuberculosis, in which this drug was administered, that it seems rather remarkable that no case of poisoning by it has thus far been reported.

Before speaking of a particular case of creosote poisoning, which occurred under my observation, I pronounce the day passed when two or three drops of creosote were considered as possessing any therapeutic value. The ancient custom of administering such small doses is only adhered to by very few at present. Nearly all physicians agree that creosote, in order to be effective in the treatment of disease, should be given in much larger doses than in former times.

Bouchard[3] was the first who gave creosote on a larger scale. His formula was used by Sommerbrodt and then abandoned, being substituted by capsules containing creosote 0.5 and balsam of tolu 0.02 gramme. The "toxic" effect of larger doses was, even at that time, so feared, that Sommerbrodt, in his first publication on this subject, stated emphatically that he gave as large a dose as 0.5 gramme daily.

Numerous articles by various writers followed this publication of Sommerbrodt, and most of the authors agree as to the potency and the beneficial effect of this drug. Among these may be mentioned Fräntzel,[4] who, however, is opposed to large doses; furthermore, Peter Kaatzer,[5] von Brunn,[6] Sedziak, of Warsaw,[7] Kossow-Geronay,[8] S. Engel,[9] E. Holm,[10] Schetelig,[11] and, especially, Driver,[12] of Reiboldsgrün. J. Rosenthal recommends the administration of creosote to tuberculous patients in carbonic acid water. Strümpell[13] is one of the few who has not had good results from it. Hopman,[14] however, had given creosote in a few thousand cases of laryngeal and pulmonary tuberculosis with very good effects. He favors large doses, and gives it in the well-known formula with compound tincture of gentian. This formula was adopted by me, as well as by others, and I used it continuously up to the end of last year. I gave it in wine, whiskey, brandy, milk, or water, and at times in cod-liver oil. Generally I began with two drops of this solution (1 creosote, 2 tincture of gentian), t.i.d., and increased it each day, or every second day, one drop. It is my habit to increase the dose as long as the patient's stomach will accept it without evincing any disturbance. As I have the strong conviction that the more the patient can take the better it is for him, I prescribed 30, 50, 80, and 100 drops of this solution, t.i.d., and the majority of the patients stood it most excellently.

What enormous doses some patients can take, by gradual increase, while a sudden overdose will cause intoxication, will be seen by the case which I am about to relate.

Mrs. H. H——, aged thirty, a native of Hungary, consulted me, upon the advice of her family physician, on February 24, 1891, on account of throat trouble. She had been married ten years, and had had nine children, four of which were living. Her father died in his seventieth year, of "heart failure;" her mother is still alive. A year before she consulted me she had caught a cold,

[1] Read before the German Medical Society, March 7, 1892.
[2] Sommerbrodt: Berl. klin. Wochenschrift, 1887, p. 258.
[3] Bouchard: Bulletin gén. de Ther., 1887.
[4] Fräntzel: Deutsche Med. Wochenschrift, 1887.
[5] Kaatzer: Berl. klin. Wochenschrift, 1888.
[6] v. Brunn: ibidem., 1888.
[7] Sedziak: Gaz. lekarska, 1888.
[8] Kossow-Geronay: Wiener klin. Wochenschrift, No. 46, 1889.
[9] Engel: Therapeut. Monatshefte, No. 11, 1889.
[10] E. Holm: ibidem., 1889.
[11] Schetelig: Deutsche Med. Ztg., 1889.
[12] Driver: Berl. klin. Wochenschrift, 1888.
[13] Strümpell: Münchener Med. Wochenschrift, 1888.
[14] Hopman: Berl. klin. Wochenschrift, 1887.

and in the following July a cough developed, with pains in the chest. Three to four weeks previous to this first consultation she felt an irritation in the throat, which increased to actual pain two weeks later, especially while swallowing. Whenever she retired, it "cooked in her throat like boiling oil."

After the acute pharyngitis and laryngitis, from which she was suffering, had disappeared under a mild treatment, I found the following conditions: The mucous membranes of the pharynx and larynx were extremely anæmic, there were superficial ulcerations on the uvula, and deeper ones on the epiglottis and the vocal cords. The posterior wall of the larynx was infiltrated. Physical examination of the chest revealed dulness on both sides down to the second rib, bronchial breathing, and numerous coarse and fine râles all over both lungs. She had had some hemorrhages, the pulse was rapid and extremely weak, she coughed almost constantly, had no appetite, slept poorly, and her strength was so impaired that I agreed with the family physician, who had made a very dismal prognosis. In fact she impressed me almost as moribund.

This was at the time when the tuberculin question had reached its zenith, so I proposed the injection of Koch's lymph, but the hospitals were all so overcrowded that she could not find admittance to any. As I, however, had to administer some treatment, I gave, *faute de mieux*, in the following way:

℞. Creosote..... 10.0
Tinct. gent. co..... 20.0
M. S.: T.i.d., two drops in water; each day one drop more.

I told Mrs. H—— that the larger the dose she could take, the sooner she would feel relieved. Upon inquiring whether she might expect any relief at all from the drops, I told her that it was my belief that if anything could help her this would, for such was my conviction, and in consequence the patient continued increasing the number of drops without asking further advice concerning the creosote prescription.

The following extracts are taken from my book of record:

April 15, 1891.—Mrs. H——, already takes sixty drops of the above solution t.i.d., *i.e.*, sixty drops of pure creosote per day without any difficulty. She feels somewhat better, it "cooks still in the throat," but not as bad as before. She sleeps better, her cough disturbing her but two or three times during the night. Here I will remark that among other instructions I bade her take as much out-of-door exercise as possible, but with the usual precautions.

April 22d.—It still "cooks in her throat" at night time, but she feels considerably better, and takes seventy drops t.i.d. The ulcerations on the uvula are healed, also those on the epiglottis, but new ones have appeared on the latter.

July 5th.—The patient had now reached one hundred drops t.i.d. But her child fell sick, and confined her to the house. Even as small a quantity as ten drops at this time made her dizzy, as though she had taken strong wine, and so she was compelled to give them up entirely as long as she was forced to stay in-doors.

August 12th.—The patient was at Long Branch, where she was continuously in the fresh air, and took again the hundred drops t.i.d. without the slightest effect. The pains in the throat have almost entirely disappeared.

December 6th.—On the right side of the chest no more dulness. Right behind, at the height of the spina scapulæ, râles; left front and behind, few râles. The patient has reached two hundred drops, only taking them twice daily, as she is prevented from going out more often. She improved remarkably during the summer, and looks and feels better than heretofore. Increasing steadily from this period, she reached three hundred drops twice daily by January, 1892.

On January 26th, in my office, I measured three hundred drops, gave them to her, and she left at once to take her customary walk.

On January 29th, 11 A.M., she took the usual three hundred drops, and went walking, but not feeling well returned shortly and drank a glass of wine. Still feeling weak she thought of the drops, which at all times had helped her greatly, and thereupon took another dose of three hundred drops for quicker relief. The results were of the most exciting nature. She had hardly strength enough to drag herself to her bed, where she lay unconscious for eight to nine hours. When I saw her, late in the evening, she looked like one in narcosis. Her eyes were closed and she was puffing and blowing incessantly, her breathing being stertorous. There were loud, coarse râles, which could be heard from a distance, over the whole chest. She was in a state of intense trismus (lockjaw). The teeth were so tightly clenched that it was impossible to separate the jaws. Her lips were cyanotic, and the pupils were contracted and did not react. There was a general loss of sensibilty and paralysis of all reflex movements. Her pulse was 128, and the respiration about 30. She urinated in bed, but the bedclothes were not blackened. The urine was of a light color. After watching the patient a while, I saw signs of gradual recovery. Holding ammonia under her nose she slightly moved her head. A mustard foot-bath was given, and ice applications were made to the head, then she awoke and felt no disagreeable results. Nor did she feel any evil consequence of this intoxication during future treatment. Through a misunderstanding I received no urine of that night and the following day, and it was not until two days later that the urine was sent me, of which I shall speak later.

On reviewing this history we find two important facts of greatest interest: First, the enormous quantity of creosote this patient was able to take; and secondly, the intoxicating effect, after suddenly taking the double quantity of the drug. I have been told that creosote was in former days more expensive than at present; this may have been the reason for its frequent adulteration. Impure carbolic acid was most often substituted for creosote, and therefore the symptoms of creosote-poisoning were almost identical with those of carbolic-acid poisoning. As creosote became cheaper adulteration was no longer profitable, and, to the welfare of our patients, we are enabled to prescribe larger doses, taking it for granted that we can always obtain the pure beech-wood creosote.

The action of creosote is often similar to that of alcohol. It is a substance which mankind can slowly become habituated to, just as arsenic, morphine, alcohol, etc., and the accumulation thereof in the body has—as in all my experience—not been followed by any bad results. When first I prescribed large doses I feared it might affect the kidneys, but repeated examinations in the case of Mrs. H—— reassured me that these parts were perfectly normal. Many other cases showed the same negative results.

Since the year 1887, after treating a few hundred cases of pulmonary consumption in private and dispensary practice, all of whom were suffering at the same time from laryngeal phthisis, I positively affirm that creosote, administered to those who can bear it, becomes more effective the larger the quantity taken.

Having stated the number of drops taken by Mrs. H——, the vital question follows, What was their actual weight? To answer this exactly, I asked the patient for the dropper she had been using, and then Mr. Thomas Latham was kind enough to measure the creosote, which had been bought at his drug store. The following was the startling result: 15 minims equals 45 drops of patient's pipette; 1 minim equals one-third minim creosote; specific gravity of creosote about equals 1.08, average equals one-tenth heavier than water; 300 minims equals 20 c.c. By weight of creosote, about 18.00 grammes; 300 drops from patient's pipette equals 7.34 grammes; creosote equals one-third of mixture, equals

2.40 grammes! Which shows that the patient had taken, in the last two months, 2.4 grammes of pure creosote at a dose; but it is more probable that the dose was 5 grammes daily. The amount impressed me as being very small, although by contrast to former usage it appears large. By Mr. Latham's assistance I soon obtained another pipette, which was so large that, by measuring the same number of drops, we found exactly double the quantity of creosote. Had she used this last pipette she would have taken nine or ten grammes creosote a day.

Although a common fact that there is no standard size of pipettes in our Pharmacopœia, it is so often forgotten that I hold it necessary to draw attention to the above illustration, which taught me to cease prescribing creosote in drops. If we desire uniformity in our experiments and in our results, and if we wish to feel certain of the exact quantity of creosote the patient is taking, we must not prescribe in the form of drops. After a fair trial of different forms of prescription, as in pills, capsules, oil, etc., I finally came to the conclusion that the following is the best method: Give the creosote in pill mass, with liquorice, inclosed in capsules. This double casing prevents evaporation, which often happens when packed alone as pill or capsule. The advantage of no smell nor taste, but principally of the exact measurement, which cannot be obtained with the unreliable pipette, is of paramount value. The above formula is quoted from an old prescription, the author being unknown to me.

When this form is used, we can gradually increase the quantity without any fear of intoxication, until the patient's stomach revolts. How groundless, however, the fear of creosote-poisoning is, is shown by the fact that I could find no clinical report, but the two cases of Taylor and Manouvriez, and in both of these creosote was not prescribed as a medicine by a physician. Taylor[1] reports the following case: "The oil of tartar is a powerful vegetable irritant. In 1832 about ten drachms of it caused the death of a gentleman to whom it had been sent by mistake for a black draught. The druggist who sent it was tried for manslaughter, but acquitted. Its irritant properties are owing to creosote, carbolic acid, and other compounds." I believe that in Taylor's report either he made a mistake, or there is an error in the print, as the oil of tartar is a strong solution of carbonate of potassium and sal tartar, being entirely colorless and not black. But it might have been the oil of tar, which has these qualities. At all events, this case is not clear.

Neither does the case of Anatole Manouvriez[2] throw much light upon this subject. The case treats of a bottle-fed baby, eleven days old, who was given creosote by the mouth. Some minutes later it was found almost suffocated, with a strong odor of creosote, pale, and the mouth half open. The child writhed and made strong efforts to breathe and to cough. From time to time it gave forth hoarse cries, as though suffering from membranous croup. Fluids could not be swallowed, but came back through the nose. The child died after eleven hours, during which time it was able to swallow but once.

Not knowing the amount of creosote given in either of these cases, we can draw no exact conclusions of the effect of the creosote. That the child could not swallow or breathe is very natural, from the deep cauterizing caused by the creosote in the pharynx and larynx (this was shown at the autopsy). Probably this is the same reason why the child kept its mouth open, whereas Mrs. H——'s jaws were tightly closed.

The writhing of the child is a proof of severe pains in the abdomen. Such colicky pains were never present in my patient; except in the last few months, when she took the large doses, she had pains in the lower abdomen, but only during the period of menstruation. Therefore I advised her to omit the drops while unwell. Even at the time when she took the six hundred drops at once she complained of no pains in the abdomen, and I am surprised that Brunton, in his "Pharmacology" (page 69), makes the following remarks: "Large doses (*i.e.*, of creosote) taken internally cause nausea, vomiting, colicky pains, and diarrhœa." These statements appear incorrect in more than one respect. If large doses would cause, as the author says, vomiting, then the greater part, or all of the creosote, would be expelled from the stomach, and it is not easily understood how such a patient could have diarrhœa, or colicky pains, although the latter might be the result of some other cause. Here I should like to mention that in most of the text-books the authors call a great deal of attention to vomiting after large doses of creosote, without any foundation for the statement.[1] My patient never had diarrhœa.

A point of great practical importance is the urine. When I first gave the large doses I was afraid that the patient might develop nephritis, but she never complained about pains in that region, nor did the urine, which was examined by me about every four weeks, contain albumin or casts L. Weber, who administered but small doses, never found a nephritis either. But M. Manges personally informed me that, in treating a man, twenty-five years of age, beginning with the dose of ten drops of Hopenais solution t.i.d., increasing every second day two drops, he found when 150 drops were reached (*i.e.*, 50 drops of creosote) that pains began in the loins, and nephritis had set in (albumin casts, no blood). This nephritis disappeared three days after the medicine was discontinued. The urine, Dr. Manges affirms, was never darkened. This is the only case of nephritis which I know of following the use of creosote.

As I have already stated, through neglect I did not receive the urine until two days after the poisoning. I sent this specimen to my friend Dr. Hugo Schweitzer,[2] who informed me that the urine examined did not contain any creosote, nor its products of transformation.

But of this I am positive, that the urine never was black, nor even darker than usual. Also in this respect there is no similarity to carbolic acid. Even to present date the urine has never been darkened. But as to whether the urine smelled of creosote the day after the intoxication, Mrs. H——and her husband disagree. Several weeks later, on February 13th, the patient, still believing in heroic doses, after taking three teaspoonfuls of the mixture noticed the same strong odor in the urine.

And now, gentlemen, I will conclude with a few remarks on the treatment of creosote-poisoning. When first I saw my patient under the effect of the poisoning by creosote, I thought external excitants the most effective, which they proved to be, as they brought her to consciousness in a short time. Whether this was accidental or not, I dare not affirm. In the future, should you meet with a case wherein these simple remedies do not have the desired results, I would draw your attention to the following note: "The question as to whether the antidotes, consisting of the soluble sulphates, which are so efficacious in carbolic-acid poisoning, would be equally effective in poisoning by creosote derived from beechwood, has been studied by Hare,[3] of Philadelphia. It will be remembered that these substances unite with carbolic acid, forming sulphocarbolates, which are virtually innocuous. In these experiments it was found that animals receiving very large poisonous doses of creosote could invariably be saved if soluble sulphates in sufficient quantity were administered."[4]

To Mrs. H——'s history I will add that after the intoxication she again took the creosote, but was obliged to begin, as she was at all times after a pause, with small doses, increasing them so rapidly that she very soon reached 300 drops. At last the dose was increased to the extraordinary large amount of 500 drops twice daily;

[1] A. S. Taylor: On Poisons, etc. Philadelphia, 1885.
[2] A. Manouvriez: Ann. d'Hyg., 1882.

[1] L. Levin's Text-book on Toxicology, and others.
[2] Of Breyer & Schweitser, analytical chemists, 159 Front Street, New York City.
[3] University Medical Magazine, April, 1889.
[4] Annual of the University Medical Society, 1890.

then pneumonia on the left side developed, but she is now convalescing.

Creosote is undoubtedly a strong poison, and must naturally have poisonous effects, either taken without graduation in a large quantity, or as my patient did, increased (although accustomed to a large dose) suddenly to a far larger one. On the other hand, there are but few remedies that one can become so easily habituated to, and which the organism can for so long a time bear as well as creosote

When Beverley Robinson, supported by others, states that the patients in the United States cannot take creosote in large doses, I disagree with him, and firmly believe that there are many in this country who can bear very large doses, and for these the more we administer the happier results we obtain.

FACTS BEARING UPON THE NATURE OF A PSYCHIC MEDIUM.

By R. OSGOOD MASON, A.M., M.D.,

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Preliminary Observations.—The condition now variously known as animal magnetism, mesmerism, and hypnotism, has been recognized throughout the historic period of the race. Up to the time of Anton Mesmer the condition was looked upon as supernatural, and was associated with oracles, inspiration, prophecy, and miraculous healing.

Mesmer first removed the phenomena from the realm of supernaturalism and referred them to natural causes. For this his name should be honored, and the charlatanry to which, by misappreciation and neglect, he was provoked and tempted, should be forgotten. We admire Galileo for his grand discoveries and his brilliant defence of truths which so vastly enlarged the mental horizon of mankind, and we forget, as best we can, his pusillanimous recantation at the dictation of a mistaken Church.

The nucleus of Mesmer's theory may be stated thus: A needle is placed in harmonious relations with the universe by being magnetized; by an analogous process the human body may be placed in harmonious relations to its surroundings and the universe, and the property or instrument by which this is accomplished is called animal magnetism. Health consists in the orderly performance of the functions of the body. Disease is disorder. As the harmony of the needle with nature is secured and maintained by magnetism, so the order and health of the diseased body are restored and maintained by animal magnetism.

In accordance with this theory he proceeded to magnetize or regulate the magnetic currents of patients affected with paralysis, amenorrhœa, epilepsy, infantile convulsions, and other diseases, and he cured them. The physicians and scientists of that day concerned themselves chiefly with Mesmer's theories, which they did not understand and consequently ridiculed—a mode of procedure not altogether unique—and they rejected his facts accordingly. His patients and others concerned themselves chiefly with his facts and cures, without troubling themselves about his theories. They believed his facts were solid, and they were right.

A century has passed. Mesmer's facts, and a great many more in the same direction, are accepted by the medical profession, but instead of his simple theory of an analogy with a well-recognized fact and law in nature, they have invented a score of different theories, having no analogy or agreement either with nature or with each other.

I wish here to record three simple facts observed by me, and which seem to me to have a bearing upon the much-discussed subject of the force, influence, or medium concerned in producing the phenomena of hypnotism. In doing this I shall use the terms animal magnetism, mesmerism, and hypnotism as synonymous, since they are only different names for the same thing, each having its own appropriateness and its own defect. The term animal magnetism assumes a theory which is not universally accepted; mesmerism associates the name of a man with a group of phenomena with which he was first and most intimately connected; while hypnotism, the name at present most acceptable among modern students of the subject, implies sleep, which is not necessary to the condition which it designates, and, as a matter of fact, often forms no part of the phenomena presented.

The following are the facts to which I would call attention at this time:

1. In the application of animal magnetism or hypnotism, for therapeutic purposes, I often make use of passes in the following manner: Using the tips of the extended or slightly bent fingers, I commence at the top of the head and pass the hands slowly downward over the face, chest, body, lower extremities, and feet, not touching the person, but keeping the fingers at a distance of from a few inches to two or three feet away. Now, I have observed that certainly much more than one-half of the persons so treated are able to feel these passes, more or less distinctly, and to describe the sensation produced. Most patients describe it as a breeze or current; sometimes designated as warm, sometimes as cool, and sometimes as the "pins and needles" sensation. Sometimes the latter sensation is felt so powerfully as to cause sharp pain, convulsive action of the muscles, and loud outcry, the patient at the same time begging me to desist. In those cases where shock and pain are experienced, if the distance of the hands from the patient is increased the unpleasant effect is diminished and becomes bearable. I have met, at least, three well-marked cases of this kind. Generally the effect of the passes is agreeable, and very often results in a true hypnotic sleep. Regarding the sensation described simply as a current or breeze, I would say that it is impossible that it should be caused by any actual current made by the movement of the hand, since the more slowly the passes are made the more distinctly are the sensations perceived; they are also perceived equally well through the ordinary clothing with gloves and boots, or through the ordinary bed-covering. Experiments with the patient blindfolded have often succeeded perfectly. I have made these experiments hundreds of times, often upon most decided and strong-minded sceptics. One of the latter sort, while undergoing the experiment, bounded up from the sofa upon which he was lying, and exclaimed with great emphasis, "Zounds, man, you have a battery somewhere about you!" It is needless to say that such was not the case, and after a few passes the effect became simply noticeable and quite agreeable.

2. Some years ago I had under my care a young lady, twenty-two years of age, a teacher in the public schools, who was subject to the most unmanageable attacks hystero-catalepsy, accompanied, or rather followed, by partial paralysis and protracted periods of double consciousness. The case was reported along with several others before the Neurological Section of the New York Academy of Medicine, October 12, 1888. She was cured by hypnotism. She was, however, under my observation for several weeks after her cure was apparently complete. I also occasionally put her in the hypnotic condition. During her illness the manifestation of abnormal sensitiveness was marked and frequently observed, and I now became convinced that the same condition continued, notwithstanding the disappearance of all unusual manifestations of it. Accordingly I instituted some experiments to test this point. I will describe two of them.

(1.) Taking an old-fashioned copper cent, which I happened to have in my possession, I wrapped it neatly in a bit of ordinary tissue-paper; this was folded in another covering of the same material, and so on until it had acquired six entire coverings of tissue-paper, and was a little, flat, soft, innocent-looking package quite convenient for my purpose. This I took with me, held closely in the palm of my right hand, as I entered the room where my pa-

tient was lying on a lounge. I took a chair as I passed in, and placing it beside the lounge, I sat leisurely down and took her right hand in mine in such a manner that the little package was between our hands, and in close contact with her palm as well as my own. I remarked upon the weather and commenced the routine duty of feeling her pulse with my left hand. A minute or two were passed in banter and conversation intended to thoroughly engage her attention, when, all at once, she commenced to wipe her mouth with her handkerchief and spit and sputter with her lips and tongue as if to get rid of some offensive taste. She then looked suspiciously at me and said, "I wonder what you are doing with me now." Then suddenly pulling her hand away from mine she exclaimed, "I know what it is—you have put a nasty piece of copper in my hand!"

(2.) I took two new, clean glass bottles, exactly alike, fitted with new corks, and put a small dot of ink in the centre of one of the corks, for the purpose of identification. I then filled the bottle with the plain cork with plain Croton water from the faucet in my office. Immediately after I drew a goblet of water from the same faucet, and placing it on my desk I brought all my fingers together in a chump, and then held them for a minute or more over the water in the goblet, as near as convenient to it but without the slightest contact. This water it was, "and nothing more," with which I filled the second bottle, having the marked cork. I then wrapped the bottles separately in thick white paper, put them in a satchel and took them with me on my visit to my patient. During my visit I produced the bottles, taking care that my patient did not see them, much less distinguish the corks. I proceeded to pour out a teaspoonful of the plain water and desired her to taste it. She did so, and I then asked her what she supposed it to be. She replied that she could taste nothing but simple water. I then took a teaspoonful of water from the marked bottle and desired her to swallow it; and on asking her the same question she replied this also was water but that it was peculiar. It was not exactly like aerated water, but that conveyed the best idea she was able to give of how it differed from the plain water; it had a sparkle which she felt in her mouth and felt all the way down as it passed into her stomach. No matter how or in what order the two waters were given her, she never failed to distinguish them, and she always described the difference in the same way.

3. An experiment with the little toy planchette, March 8, 1889. For several days past a young lady friend of the family has been stopping at my house. She is an excellent hypnotic subject; anæsthesia and amnesia are perfect. She travels mentally with me to places she has never seen, and carries out post-hypnotic suggestions with great exactness. For several evenings past we have been amusing ourselves with planchette. She has never seen it used, and at first believes I am making fun of her, until finally something is written of which she knows I am perfectly ignorant, and so she accepts the phenomena as, at least, not intentionally fraudulent. Those who object to the supranormal or extraordinary character of the phenomena of planchette-writing and table-tipping, allege that the movements are caused by the muscular action of the operators. The operators may be honest, but they are deceived, and the movements must be, and therefore are, made by unconscious or automatic muscular action. Regarding the apparent intelligence exhibited in these performances I have at present nothing to say, but that the movements are caused by the muscular action of the operators, conscious or unconscious, I am quite sure is not always the case.

On the evening above mentioned, sitting with the friend whom I have also mentioned, and in the presence of several other intelligent persons, the planchette writing was unusually rapid and violent, and in characters well formed and large. The pain, like that from an electric current, which is often experienced by those assisting at such experiments, was felt by my friend so severely as to be almost unbearable, making her cry out and sometimes remove her hands entirely from the board. Noticing the great power exhibited in the writing, I raised my fingers so that the board slid under them, my fingers remaining in contact with the board, but not following its movements in the slightest degree: the writing still went on as usual. I then called the attention of my friend to what I was doing, and desired her to place her hands in the same position. She did so, and in the presence of three other persons who also witnessed the experiment, the board continued its writing, although neither my own fingers nor those of my friend followed the movements made to produce the writing in the slightest degree, but the board simply slid under our hands. The writing thus made was perfectly distinct and legible.

The tendency of the modern school of hypnotism is to decry and discredit everything which points to an unrecognized force as a cause for the phenomena of hypnotism; especially is this the case when for any such force a physical basis is claimed.

Hysteria, hypnogenous zones, cortical inhibition, unconscious cerebration, imagination, suggestion—these are a few of the various physical and mental states which are seriously considered by the apostles and teachers of hypnotism as real causes, either of the hypnotic condition itself or of the marvellous phenomena which it presents. To hold such opinions can hardly be considered otherwise than illogical, and for the following reasons:

1. Good hypnotic subjects are found among perfectly healthy persons as well as among the neurotic and hysterical.

2. The theory of cortical inhibition while showing ingenuity in its construction fails to show any necessary or special connection with hypnotism. To speak of the inhibitory influence of a stronger over a weaker brain without showing any method or means for the transferrence of that influence, is to leave the theory incomplete and unsatisfactory.

3. Hypnogenous zones are simply specially sensitive points in the body upon which certain external influences very readily produce an effect, but by no means uniformly a hypnotic effect.

4. Regarding imagination and suggestion, persons are often hypnotized who have not the slightest idea that any such effect is expected or desired, and even when they are separated from the hypnotizer, and have no suspicion that any hypnotic influence is being exerted upon them.

In fact all the theories to account for the phenomena of hypnotism, which have so far been looked upon with favor by men of science, have, upon analysis, proved to be partial, insufficient, not covering the ground of accepted facts, altogether lacking harmony among themselves, and not falling into line with other facts in nature. The only theory among them which bears a broad and undisputed relation to the subject is the theory of suggestion, but even this, as we have seen, is incomplete, since persons are put into the hypnotic condition without knowing or suspecting that any such influence was being exerted upon them.

They have been put into the condition by the simple will of the operator, when the subject and operator were separated by distances so great that suggestion by any ordinary process or means of communication was impossible. There is also sometimes a community of sensation between the hypnotizer and subject which is practicable, and has been demonstrated to exist when they were separated by a distance of a hundred feet or more, and when that distance was obstructed by walls and closed doors.

In other words, while suggestion is an agent in some of the phenomena of hypnotism, it is by no means a broad principle underlying the whole body of facts as a cause. And even if it were admitted, it must act through such distances and under such circumstances as to require extraordinary and unknown, if not supranormal, means of transferrence and communication.

For such a purpose it is necessary that there should exist a medium possessing a physical basis, of however rare

and subtle a character, through, or by means of which, psychical influences and impressions may be transmitted.

It is in this relation that the whole subject of animal magnetism, vital force, and the *od* force of Reichenbach will of necessity have to be reviewed and restudied. The leek which the unco-scientific have ridiculed for a century past, will, after all, have to be smelt and tasted.

It is as a contribution to a subject whose interest and influence is bound greatly to increase in coming years that I offer these facts bearing upon the subject of a psychic medium.

REMARKS ON THE OPERATION FOR SECONDARY CATARACT.

By G. HERBERT BURNHAM, M.D., F.R.C.S. Edin.,

OCULIST AND AURIST TO THE TORONTO GENERAL HOSPITAL, AND THE EYE AND EAR INFIRMARY; LECTURER ON THE EYE AND EAR, MEDICAL DEPARTMENT OF THE TORONTO UNIVERSITY, CANADA.

In successful cases of cataract extraction it is unfortunately our lot to have still to contend with the impairment of vision caused by capsular remnants.

The favorite modes of doing the operation of discission are, 1, with one or two needles with sharp points; 2, with a needle with cutting edges; and 3, the division of the capsule by Dr. Wecker's scissors.

I consider that the secret of uniform success lies in the avoidance of too violent dragging upon the ciliary region. I think that the success and freedom from after ill-effects depend upon following out this idea, and that that mode which best enables us to gauge and avoid overstrain is the one which ought to be adopted. I feel that the methods of using one or two needles, and by Dr. Wecker's scissors, are decidedly superior to the cutting needle.

The needles I speak of are those made by Weiss & Son, London, which not only easily pierce the cornea but also retain the aqueous.

By briefly describing the method I pursue I may more clearly make evident my meaning:

The eye is placed under the influence of cocaine, having been previously atropized. I now introduce one needle, and if I find the capsule very friable, the turning process is completed by it alone. If, however, there is much resistance, I do not persevere, but at once pass in the second needle, which, unlike the first one, has a shoulder after Sir W. Bowman's pattern, and then manipulate with these. By doing so cautiously the capsule can be torn without undue traction. After the introduction of the second needle, or in cases in which I have at once made use of two needles, if the effort to divide the membrane shows it to be tough and to render unavoidable the dangerous amount of strain upon the ciliary region, I quickly withdraw these needles. These needles, when properly manipulated, allow none or so little aqueous to escape that the operation with Dr. Wecker's scissors can be immediately entered upon. This latter renders very easy the division of the tough capsule without the dangerous tension already spoken of. The use of the needle with cutting edges, however, requires the rapid performance of the operation, and consequently, as there is no time given to ascertain the character of the capsule, the operator is apt suddenly to realize that it yields much less readily than expected, and only after hazardous tension upon the ciliary region.

The operation for the removal of opaque capsule by the hook is open to the same objection, and in this objection lies, I may say, its great drawback.

Therefore I repeat that the best form of operation is that which allows you not only to feel your way, but at the same time to accomplish your object or to retire without having injured the eye, as the use of the needles in the way described do. In addition, with care in these examinations the eye is so little disturbed that the completion by Dr. Wecker's scissors can at once be proceeded with if time be of great moment.

In regard to after-treatment, the use of atropine, cold applications, etc., are indicated. By following out these directions, the reaction after the operation for secondary cataract is slight. Iritis, iridocyclitis, purulent inflammations and such dreaded sequelæ do not occur in a healthy eye, unless the operator have departed from the principle laid down, or the instruments used have been dirty.

214 John Street.

Clinical Department.

AN EASY BIRTH.

By ERNEST B. SANGREE, A.M., M.D.,

DEMONSTRATOR OF HISTOLOGY IN THE MEDICO-CHIRURGICAL AND THE PHILADELPHIA DENTAL COLLEGE.

Some time since I had an experience, which, though of not of any great interest in itself, seems to me not unworthy recording, rather on account of what might have been. While passing along a street I was accosted by some sympathetic neighbors who asked me if I would go up to look at a colored girl lying up-stairs in the act of labor, with no one by to render any aid. Once there of course I was in for it. The birth had taken place about ten minutes before I reached the room, the child and the placenta having come away together, and the mother not having moved since. After doing what was necessary I left, and being interested in the case on account of the extraordinarily easy delivery, the next day when I called, asked her for the particulars. She was an unmarried girl, of eighteen years of age, and had known she was pregnant, but had not expected the child for a month longer. She had been attending to her regular work until the day before her confinement. On that day she experienced some cramp-like pains, which were not particularly severe and which had entirely left her. The next morning she set about her work as usual, and was doing some sweeping when, about 11 A.M., feeling unwell, she lay down on the bed to rest. Some fifteen minutes afterward she felt the waters break, but being densely ignorant did not know until I told her, either what had happened or what it meant, conscious only that she was relieved by the incident. After another fifteen minutes a slight pain shot across her abdomen, but the first real knowledge she had of what was going on, was an instant afterward when she heard the baby cry. As for the actual passage of the child from the uterus into the outer world, the mother was not aware of it. The placenta had evidently followed at the same instant as the child. Such were the facts in the case, but it is not hard to conceive that they might have been quite different. On account of the girl's utter ignorance of what was about to occur, she might easily have attributed her sense of discomfort to a desire to evacuate the contents of either bladder or rectum, or both (we know how common such desires are at this time), and instead of lying in her bed might have been in the outdoor water-closet—the only one connected with these hovels. Once there, the discharge of the waters and the partial relief experienced, would probably have induced her to remain longer, in the hope that all her discomfort would leave. Or, indeed, in the sitting posture, when the waters broke, everything might have come away at one gush. It is not even necessary to assume that the feeling of discomfort in the lower part of her abdomen might have induced her to seek relief by attempting to evacuate the contents of bladder or rectum. It might simply have been a coincidence that she went to stool at the critical moment when everything was ready to come, and the straining to defecate or urinate have brought along child and placenta in the same manner that they actually did come—like a shot—thus giving her no time to leave the spot, even granting that she were aware of what was taking place. According to the conditions supposed, the child might have dropped into the vault below, leaving the girl in utter ignorance of what happened, and of course innocent in act. In case of discovery and legal investigation,

everything would tend to incriminate the girl: She was unmarried; it was the first time she had been pregnant; she had told no one of the singular accident nor informed anyone of her previous condition; so that between the known evidence and the presumed motive, there is hardly a doubt that in such a case almost any jury would return a verdict of voluntary infanticide.

RETAINED TESTES.

DR. O. L. BARTLETT, of Rockland, Me., writes: "The following rare and very interesting case of lack of development seems to me worth publishing: Mr. A. J. F——, aged twenty-two, has always been robust. But his testicles are located in the inguinal canal; the left invisible, known only by tenderness on pressure; the right very noticeable at the external abdominal ring.

"By palpation, patient standing, it can be distinctly mapped out and pressure between the fingers gives that tender, sickening sensation peculiar to the testicles. The testicle seems to have some connection with a flat, oval tumor, about two inches in diameter, just above, to which is given a decided impulse on lifting the testicle upward; a clear wave-like movement also traverses it as though it were a sac filled with fluid. The hypodermic needle, however, excludes it. Coughing brings the testicle more prominently into view, showing it to be of natural shape but smaller than normal in size, and causes a wrinkling over the flat tumor as if from muscular contraction.

"When the patient lies on his back, the testicle disappears within the ring, while the flat tumor remains. The penis is well-developed; the scrotum is present, but is only a small sac. The ejaculatory ducts are normal, and copulative power is perfect. The patient has no physical weakness, and can do hard labor without detriment. I should like to ask if there are many such cases on record, and the probable nature of the flat tumor?"

EUROPHEN IN THE TREATMENT OF THROAT AND NOSE DISEASES.

BY WALTER F. CHAPPELL, M.D.,

NEW YORK.

THE therapeutic value of many new remedies has been so overestimated by their numerous advocates that one hesitates to recommend a new drug without being certain of the results which may be expected from its use. While not claiming that europhen excels all other remedies of its class, I have been so impressed with it in certain cases that I am convinced it is a remedy worthy of more extended use. Europhen is an amorphous, light yellow powder with very slight odor, and may be used either in powder form or, as it is soluble in alcohol, ether, and all fixed oils, it can be sprayed over the parts. The powder, however, is preferable. Six months ago I began to use it in a case of rhinitis fœtida, and since that time have treated fifteen persons suffering from this disease. I do not propose to burden you with the histories of these cases but to give a short general sketch of the results.

Three cases which received daily treatment during a period of four months, seem perfectly cured and have not the slightest return of the trouble after a month's cessation of treatment, and the mucous membrane of the nasal cavities has a very healthy appearance. The other cases are still under treatment and in various stages of improvement, exceeding anything I have obtained from other methods. The parts should first be cleansed with a half per cent. solution of creolin, and then by means of the small powder-blower recommended by Dr. Andrew H. Smith thoroughly covered with the europhen. This should be repeated every morning and the patient directed to use an ointment at night, consisting of two drachms of europhen to an ounce of vaseline, applied with a camel's hair brush inside the nostrils. This treatment at once excites a watery discharge, which at first is mixed with a quantity of soft yellow mucus, which gradually becomes thinner and lighter in color and less in quantity, until we have only the watery discharge left, with a puffy red condition of the mucous membrane. Whether this benefit will be permanent it is too early to say, but certainly the prospect is very encouraging. I have used europhen in one case of suppurative catarrh where, after removing a good part of the anterior portion of the middle turbinated bodies, I blew in the powder of europhen and with a small probe endeavored to work it into the sinuses. After beginning this treatment the patient improved rapidly, although she had been under my care for eighteen months previous with little benefit. Europhen is also of great value after all operations in the throat and nose, on account of its hæmostatic and antiseptic properties.

A CASE OF ASTHENOPIA AND HEADACHE DUE TO HYPERTROPHY OF THE MIDDLE TURBINATED BONE.

BY A. B. KIBBE, M.D.,

SEATTLE, WASH.

THE following case is reported because of the peculiar features presented. It is not my opinion that instances like it are common, but I do believe, and my opinion is derived from experience, that headache and asthenopia as well are not so very rarely due to nasal disease. Especially am I of the opinion that hypertrophy of the membrane covering the middle turbinate and thus comprising the septum is a rather frequent cause.

April 20, 1890, I was consulted by Mr. S——, aged thirty-three, by occupation a gambler. I give his occupation lest it be may supposed from the peculiar features in his case that hysteria might have been a factor in producing his symptoms. He stated that for nearly a year he had been unable to read or use his eyes for other close work without a sense of weariness. During the day they seemed too tired, as he expressed it, and he had a constant desire to keep them closed. In getting the history of his trouble, inquiry elicited the statement that he had been a sufferer from almost constant headache in the temporal region, on both sides, for a period of five years. Examination showed emmetropia, all glasses being rejected. Four days' use of atropia, one-half per cent. solution, showed Hm. .50 O. S. and D. These glasses were prescribed for constant use simply as an experiment. I did not see him again until August, when he called to say that his eyes were no better, though he thought the glasses had been of some slight assistance in reading. He had spent the summer in the mountains with the hope the out-door life might benefit him, but had returned disappointed. I then proceeded to examine him for every possible cause. Testing with prisms revealed insufficiency of the external recti 3°. The nasal passages showed a deviation of the septum to the right and an enormous hypertrophy of the left middle turbinated bone, completely filling up the concavity in the deviated septum. The overlying mucous membrane was intensely red, and a ten per cent. cocaine solution failed to appreciably diminish either the injection or the size of the tumor. Here was a dilemma. The muscular insufficiency was in itself sufficient to account for all his symptoms, but with the condition of the nasal passages added an exact diagnosis was impossible. I therefore decided to prescribe 1½° prisms, base out, and await results. These he wore with no difficulty, and at the end of two weeks reported no improvement. I thereupon proposed to remove the hypertrophied turbinate, and, that failing, make a graduated tenotomy of the internal recti. To this he assented. Using a straight Jarvis snare, I had no difficulty in surrounding the tumor with the wire loop and cutting through it. The piece removed was about ten millimetres long, eight wide, and eleven thick. Bleeding was rather copious, but soon stopped spontaneously. The following day he returned,

saying that he could read without difficulty, and that his headache had nearly ceased. At the expiration of a week his headaches had entirely ceased, and he is now able to read indefinitely without pain or annoyance of any kind.

An examination made February 26, 1892, shows the insufficiency of the externi to have disappeared. Prisms of 8°, base in, are overcome, and in the vertical diplopia test the images are superimposed. This is the most peculiar feature of the case. Why the turbinated hypertrophy should have produced an innervation of the external recti I cannot explain, and the question arises, is it not possible that some cases rebellious to prisms, tenotomies, and every known method of treating asthenopia may have a source similar to the one I report? Any aid in the treatment of these cases will be welcome to those who encounter them, and it is for their benefit I report this case.

A STRANGE MEDICO-LEGAL CASE.

By F. SEMELEDER, M.D.,
MEXICO, MEX.

One evening in May, 1891, a woman, belonging to the middle class, presented herself at a police station of this city, crying and in great distress, asking for medical assistance, because her husband was very sick and had probably poisoned himself. The employee and surgeon went to the patient's house, found him almost dying; signs of disorder in the house and room, as is natural in case of such an accident. On the table there was a small vial labelled morphia. The sick man was taken to the municipal hospital of San Pablo, where he died the next morning, without having recovered his consciousness even for a minute. The widow and family were extremely anxious to have the corpse delivered to them to take home. They wished to wash and dress it, and have a funeral. However, as there were some strange features about the case, they were denied their petition and a post-mortem ordered, which furnished the following curious data:

No external lesion was found. The nostrils and mouth showed signs of a bloody discharge and the nasal cavity was full of bloody cotton. After opening the skull no signs of congestion of the brain were noticed; after taking out the brain, at the base of the anterior lobes a small portion was reduced to a pulp. On the base of the skull the cribriform plate of the ethmoid bone showed fractures communicating with the nasal cavity and corresponding to the brain lesions before mentioned. These fractures were probably caused by some pointed instrument (afterward it was known to have been an iron hook) introduced with great force and turned round in various directions. A little farther back, and in the right fossa of the cerebellum, between the dura mater and bone, there was an extravasation of coagulated blood; after removing this blood a fracture was discovered at the base of the skull, which parted from the occipital foramen and extended into the mentioned fossa.

The mouth, nasal, and pharyngeal cavities were full of blood-clots; above the soft palate, in the fundus of the pharynx, a small wound made with a pointed instrument and only interesting the mucous membrane. The sixth, seventh, eighth and ninth ribs on both sides were fractured, near the insertion of the cartilages and on the pleura were corresponding ecchymoses. The lungs showed no congestion, as is found in morphia poisoning. In their lower and posterior parts were found remarkable subpleural ecchymoses, like those occurring in cases of sudden death.

It is evident that the lesion, partial destruction of the brain, was the cause of death in this case. The murderer, whoever it was, must be the possessor of certain anatomical knowledge and of a great amount of shrewdness. No further particulars are known, as the case has not yet been brought to a trial.

EPITHELIAL CARCINOMA OF KIDNEY.

Reported by JOSEPH WILLIAM STICKLER, M.D.,
occurring in the practice of
WILLIAM PIERSON, M.D.,
ORANGE, N. J.

Mr. P——, aged forty-five, agriculturist. Never had specific disease. No history of cancer in family. While in the South he had a severe attack of malarial fever, after recovering from which he observed a tumor in the right side of his abdomen. His physician regarded it as an enlarged liver. At that time he was up and about. Had no pain or jaundice. His appetite was good and bowels regular, but he lost in weight. The emaciation became more and more marked as the disease advanced. He came North in June, 1890, and placed himself under the care of Dr. William Pierson, Orange, N. J. At that time there was dulness from the nipple to a point two inches below the umbilicus, and from the spine to the cartilage of the tenth rib on the right side. It was thought that the free border of the liver could be felt. The tumor was hard to the touch and irregularly nodular. No fluctuation could be discovered till November, 1891, when a small area of fluctuation was appreciated in the axillary line, about midway between the upper and lower borders of the tumor. By means of a hypodermic needle some fluid was withdrawn, which consisted of pus and blood-cells, with a few other cells which had the appearance of cancer-cells. The urine gave no evidence of renal disease. The patient was seen at this time by several physicians, among whom were Professors C. A. Lindsley and F. S. Dennis, all of whom regarded the tumor as a malignant growth of the liver.

The patient continued to lose flesh and strength, although he never complained of pain. Death occurred January 23, 1892.

Post-mortem examination was made by Drs. Mitchell and Stickler. Present: Drs. Pierson, Bayles, Harvey, Bradshaw, Maghee, and Gunther.

The lower extremities were very œdematous. The upper extremities, chest, and head were without visible fat. The veins of the chest and abdomen were markedly enlarged. The circumference of the abdomen at the level of the ensiform cartilage was 43 inches; at the level of the umbilicus, 44 inches; three inches below the umbilicus, 47½ inches.

When the abdominal cavity was opened there appeared a large tumor, yellow in color, and lobulated. There was some ulceration of the tumor, upon its surface, in the axillary line, about midway between its upper and lower borders. At one point on the right side of the tumor the peritoneum was intimately adherent, below and posteriorly there were also some attachments, but they were easily broken away.

The intestines were adherent above, below, on the left side, and posteriorly. The omentum was attached anteriorly. The liver was normal in appearance, but was attached to the upper surface of the tumor. The spleen, left kidney, pancreas, stomach, bladder, and intestines were normal in appearance.

The tumor weighed 43 pounds; measured 32¾ inches in circumference at its most contracted point, and 42 inches in its long diameter. The growth was kidney-shaped. Within its interior was a cavity about as large as a fig, caused by an ulcerative process.

Inasmuch as a carcinomatous kidney weighing forty-three pounds is not frequently encountered in practice, it was thought a published record of this case might prove interesting.

What Will the Children Do Now?—The Massachusetts Legislature, on March 8th, by an overwhelming majority, passed to be engrossed the bill making it a criminal offence to manufacture, sell, or expose cigarettes for sale within the limits of the State.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

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New York, April 23, 1892.

A WARNING TO CHICAGO.

THE foreign medical journals are beginning to comment upon the insanitary condition of Chicago in a way which ought to compel attention on the part of the authorities of that city. From a number of articles, editorial and other, which have been written on the subject, we select the following from a recent issue of the *Medical Press* as a moderate expression of the distrust of Chicago that is growing abroad:

"In view of the fact that in the year 1893 the city of Chicago will be visited by vast numbers of people, who will be attracted thereto by the great World's Fair, it is important that the sanitary condition of the place shall be such as to remove the feeling of uneasiness among those who will resort to it for purposes of pleasure. At the present time, however, this cannot be said to be the case, as typhoid fever is shown to have a tenacious grip on the city, where it is estimated that no fewer than twenty thousand cases of the disease occurred in the year 1891, the total number of deaths from this cause in the twelve months named having been 1,997. The whole question has been carefully worked out in a paper, read before the American Statistical Association recently, by Professor W. T. Sedgwick, of the Massachusetts Institution of Technology, and Mr. Allen Hazen, chemist to State Board of Health at Lawrence, and the results given above are those which this communication revealed. The Health Commissioner of Chicago has called the figures into question, and has characterized the statements as ridiculous; but, as proved by accurate examination of the mortality returns of the city, they are only too well founded, while in January of the present year no fewer than 219 deaths from typhoid fever took place in Chicago. The prevalence of the disease is attributed to the unsatisfactory condition of the water-supply of the place, which is at present derived from the river, and is occasionally polluted with sewage. In view of these facts it is very properly insisted on that immediate steps should be taken to improve the character of the supply, which it seems can easily be done by carrying out certain measures to insure an absolutely uncontaminated supply. That no time ought to be lost in securing so necessary a reformation is apparent, and especially when it is reflected that the floating population of Chicago will be so largely augmented by the rush of visitors from all parts of the world who will hurry to the Exhibition to be held there next year."

This is not a matter of purely local concern. If it were, the rest of the country could attend to its own affairs and let Chicago excuse herself for the sacrifice of the lives of her citizens in the best way she could. But Chicago will be for the time being, in the eyes of the world, the representative of the entire country, and her responsibilities are consequently much greater. If she does nothing to prevent typhoid fever by purifying her water-supply, the shame and disgrace will react upon the whole country, although the direct loss will fall upon the city itself. If it became generally known abroad that Chicago is a pest-hole, the expected millions at the World's Fair will fail to materialize, for people can find other and more pleasant means of suicide nearer home.

The figures are there, showing that typhoid fever is endemic in Chicago, and they cannot be pooh-poohed away by the city authorities. The cause of the endemic is known to be in a polluted water-supply. The remedy is simple, even though it may be expensive. Is Chicago willing to bear that expense now, or does she prefer that the Fair should be a flat failure?

As the Illinois State Board of Health has begun to investigate the matter, under the efficient direction of Dr. Rauch, we may indulge a reasonable hope that the city will be forced to act and to act promptly.

HOMES FOR MEDICAL SOCIETIES.

WE recently recorded the fact that sufficient money had been secured in Vienna to insure the erection of a suitable building for the use of the Imperial Royal Medical Society of that town. In Berlin it is announced that a similar but more elaborate building, to be called the Langenbeckhaus, and to be used as a home for the local medical societies, is in process of erection. The German Emperor subscribed $25,000.

London has long had a place for the meetings of its medical societies, and New York, in its Academy of Medicine, is perhaps as yet ahead of all other cities. The great utility of such places cannot be exaggerated. They promote the social spirit, encourage the more frequent interchange of views, and lessen the tendency to the formation of cliques. They keep the profession more actively interested in medical progress, and more uniformly acquainted with all that takes place in the scientific world. It should be one of the earliest duties of physicians in all cities to secure a common home, and we rejoice to see the movement extending.

A GENTLEWOMAN'S EFFRONTERY.

THE feelings of some of our esteemed brethren practising in London are being lacerated in a most heartless manner by a bold and shameless lay journal called the *Gentlewoman*. It appears that this disesteemed contemporary publishes each week a column entitled "Medicos under the Microscope," which gives a little sketch, accompanied by a portrait, of the life, medical training, and special capabilities of some more or less well-known London physician or surgeon, preferably a specialist. The outrage is the more apparent when it is stated editorially by this most offensive *Gentlewoman*, that the subjects of these little biographies have had no hand in their

preparation, nor even knowledge of their production. Yet, in spite of this, there are men (of course only those who have had the good fortune to escape this harrowing publicity) who are actually mean enough to ask for "some assurance from these gentlemen that these descriptions are in fact published without their own co operation." Thus the victims of this contemptible publication have not only to suffer a cruel wound to their modesty and to see themselves and their works exposed to the glare of hateful publicity, but they are even subjected to the innuendoes of the wicked and the unjust chidings of saddened friends. But it is not only those few whose privacy has already been invaded that are tortured by this fiendish *Gentlewoman*, for there yet remain several hundred modest practitioners and consultants in London who live in mortal dread from week to week, each one fearing that his turn may come next, and that his name will be added to the list of these poor sufferers from an unsought advertisement. It is a dreadful thing to wait with anxious expectancy for the lightning to strike—and then not be struck after all.

THE THERAPEUTIC VALUE OF ELECTRICITY.

In September, 1891, an electro-therapeutic congress was held at Frankfort, Germany, and another in Philadelphia, Pa. The proceedings of both these congresses have been published and have received considerable attention. The methods and aims of the two meetings were, however, in singular and instructive contrast. While the Philadelphia congress devoted itself to the publication of new methods, new instruments, successful results, and, in general, to the exploiting of electro-therapeutics, the Frankfort congress took directly the opposite course. The single aim in all the discussions was to find out if electricity did any good whatever; if so, in what classes of cases and by what methods. Throughout the meeting there pervaded a thoroughly critical and scientific spirit, which we trust our American electro-therapeutists will in the future endeavor to emulate.

A perusal of the transactions of the Frankfort congress, and of some German articles published about the same time on the same subject, leads one to the conclusion that electricity comes out fairly well as a therapeutic agent, and that it will hold a good place in the armamentarium of the physician. The "happy therapeutist" who has somewhere imbibed the opinion that "electricity is life," with all the jocund and deep-seated powers which that implies, will feel, perhaps, disappointed over the actual curative effects which have been found to be possessed by the electrical current. But there is enough in it to help him and his patients a great deal, after all.

In paralyses due to injuries or disease of the peripheral nerves, electricity, while not a specific, does good in promoting and hastening cure, or in starting into activity again a stagnant reparative process.

In organic diseases of the spinal cord, electricity seems to have no direct effect upon degenerative or inflammatory processes. Yet there are occasional exceptions, and in most cases some indirect benefit results from the stimulation of muscles and peripheral nerves, or by modifying the central circulation.

In organic diseases of the brain, it has never been thought by serious persons that the electrical current could directly modify inflammation or softening. But the mechanical and psychic effects are often profoundly useful. Wernicke's theory that stimulation of the paralyzed muscles tends to develop new sensory-motor areas, and furnish new centres in place of those injured, is plausible and has some clinical support.

There is a general agreement that electricity has a curative effect on many forms of neuralgia, and a sedative and helpful effect on many kinds of spasmodic troubles. Electricity, however, has been supplanted by the analgesics in the treatment of acute attacks. Great confidence is expressed by the French school in the use of faradism in Basedow's disease; and all agree that in neurasthenic and hysterical conditions electricity is of value. Whether its action is "suggestive," or mechanical, or biological, does not much matter, except as a question of pure science.

The Franklinic electricity has been found to have a specific effect on metabolism, increasing it more than is done by other forms.

The effect of such discussions as were had at the Frankfort congress should be to make the physician more cautious in using electricity, but more confident and intelligent when he does apply it.

It would be a most fortunate thing if some of our numerous medical congresses would take up and study critically others of our apparently well-established remedies. Would cod-liver oil stand the test, or the hypophosphites? And that superiorly wonderful tincture of the chloride of iron, would it really prove better than iron rust? The question might be asked whether invalid humanity would not be better without strychnia, or alcohol, or Fowler's solution.

We trust some day to see the medical profession enter upon a phase of therapeutic regression.

A PLEA FOR VIVISECTION.

A certain Mr. Lilly, an English anti-vivisectionist once wrote that "the results obtained by researches in the latrine and brothel are of precisely the same value as those which the vivisector derives from the torture trough." He adds: "I regard it (that is, vivisection) as absolutely unethical, and should condemn it unhesitatingly, however great the advantage resulting from it might be. . . . I should be glad to see legislative sanction given to the proposal that vivisectors should make experiments on themselves and on one another."

In interesting opposition to such mad sentiments as these, Rev. L. J. Wallace has written an article in the *Westminster Review* in favor of vivisection. Such a position is evidently considered a very extraordinary one to be taken by a layman in England, where anti-vivisection sentiments pervade not only the Philistine, but the Bohemian and artistic worlds.

Mr. Wallace, says the *British Medical Journal*, after discussing the utilitarian aspect, approaches the broad ethical issue in a dispassionate and judicial spirit. Reviewing the evidence on both sides, he recognizes that the anti-vivisection propaganda has been the outcome of emotions, misled by "descriptions" of a very partial and

very exaggerated character; and he warns those who so recklessly impute evil, that it may be immoral for the man of science to abstain from vivisection.

"A great moral force is working on behalf of the physiologists. Suffering and death are on every side of them, and if by any fair means they can alleviate the one and retard the other, they have no right to neglect these means. They are, so far as their power extends, debtors to humanity, and they would act an immoral part if they declined to make any legitimate effort to discharge this debt."

News of the Week.

Dr. John G. Rosman died very suddenly recently at his home in Brooklyn. He had been visiting his patients and was sitting in a chair in his office when the intracranial hemorrhage occurred which terminated his life. He was born in Hudson, N. Y., in the year 1835, and had been in active practice for thirty-four years. He was a prominent member of several clubs, and at one time served the Brooklyn Board of Education. Dr. Rosman was an enthusiastic sportsman and always passed his summers fishing and hunting in the Adirondacks, of the sanitary advantages of which region he was one of the earliest advocates.

The Alumni Association of the College of Physicians and Surgeons of Baltimore.—The annual "alumni lectures" were delivered before this Association by Dr. W. E. B. Davis, of Rome, Ga., on the evenings of April 11th and 12th. The subject was: "Peritonitis: its Etiology and Treatment."

Medical Association of the State of Alabama.—The annual meeting of this Society was held in Montgomery on April 12th, 13th, 14th, and 15th.

Cuban Medical Degrees.—Dr. A. M. Fernandez de Ibarra, of 140 West Tenth Street, writes: "In your issue of April 2, 1892, speaking about the Cuban degree of M.D., you say that the Spanish Minister of Foreign Affairs has proposed to take away the power of the University at Havana to grant the degree of M.D., reducing it to the position of being only allowed to grant a license to practise. Permit me to state that it was not the Minister of Foreign Affairs, but the Minister for the Colonies, who has already ordered the University of Havana to discontinue the granting of the degree of Doctor, not only in Medicine, but in all the other faculties of the University. His object is, he says, to have the Cubans go to Madrid for their higher degree, in order to make them better acquainted with the splendor and greatnesses of the mother country. I think his true purpose is to curtail the noble aspiration of the Cuban youth for learning, liberty, and culture—Machiavelism pure and simple."

Not Six at a Birth.—A telegram to the *Times* not long since conveyed the startling information that a Mrs. C. K. Smith, residing near Holly Springs, Miss., had given birth to six healthy boys, weighing in the aggregate forty-five pounds. Dr. Crampton, of this city, wrote to the postmaster of Holly Springs to inquire as to the correctness of this item, and received answer that there was no such woman there as Mrs. C. K. Smith, and that no such occurrence had taken place. Probably of equal truth is the still taller story cabled here from the United States of Colombia concerning a French woman living there who had given birth to septuplets.

The Brooklyn Dermatological and Genito-Urinary Society was organized on March 11th. The election of officers resulted in the choice of Dr. S. Sherwell for *President*, A. E. Smylie, *Vice-President*, and G. D. Holsten, *Secretary and Treasurer*. Meetings are to be held on the first Friday of each month. We congratulate the new Society upon not having adopted the name andrology, the use of which to designate a class of diseases, chiefly venereal, is a base slander upon the male sex.

Dr. Edward Wight Clarke, of Englewood, N. J., died on April 11th of scarlet fever. He was born in Manchester, N. H., October 20, 1862, and was graduated from the College of Physicians and Surgeons in 1887, taking the third Harsen prize for proficiency in the examination. After serving on the surgical house-staff of the New York Hospital he began practice in Englewood. He devoted his attention chiefly to surgery, and devised the method of treating fractured patella by subcutaneous ligature, called by his name. He married Miss Virginia L. Banks in 1888, and this wife and two children survive him.

The Pan-American Medical Congress.—The Committee on Permanent Organization met at St. Louis, October 14, 15 and 16, 1891, and adopted a series of General Regulations for the permanent organization of the Pan-American Medical Congress, and a series of special regulations for the government of the first meeting, and recommended that the incorporators adopt both series of regulations as the organic law of the Congress. Pursuant to such regulations the following general officers were elected, viz.: *President*, William Pepper, M.D., LL.D., Philadelphia, Pa.; *Treasurer*, Abraham M. Owen, A.M., M.D., Evansville, Ind.; *Secretary-General*, Charles A. L. Reed, M.D., Cincinnati, O. *International Executive Committee: Argentine*—Dr. Pedro Lagleyze; *Bolivia*—Emilio de Tomassi; *Brazil*—Dr. Carlos Costa; *British North America*—Dr. James F. W. Ross; *British West Indies*—Dr. James A. De Wolf; *Chili*—Dr. Moises Amaral; *Colombia*—P. M. Ibañez; *Costa Rica*—Dr. D. Nuñez; *Ecuador*—Dr. Ricardo Cucalon; *Guatemala*—Dr. José Monteris; *Haiti*—Dr. D. Lamothe; *Spanish Honduras*—Dr. George Bernhardt; *Mexico*—Dr. Thomas Noriéga; *Nicaragua*—Dr. Juan I. Urtecho; *Peru*—Dr. José Cassamira Ulloa; *Salvador*—Dr. David J. Guzman; *Spanish West Indies*—Dr. Juan Santos Fernandez; *United States*—Dr. A. Vander Veer; *Uruguay*—Dr. Jacinto De Leon; *Venezuela*—Dr. Elias Roderiguez. The members for Hawaii, Paraguay, Santo Domingo, and the Danish, Dutch, and French West Indies, have not yet been appointed.

The Auxiliary Committee nominated by the various members of the Committee on Permanent Organization each for his own state, and already commissioned by the Chairman, was confirmed. The election of officers of sections was begun, but time would not permit of the completion of the list, which was referred to a special committee with power to act. It has been deemed inexpedient to

publish the list until it is completed, which can hardly be accomplished before the meeting of the Committee on Permanent Organization at Detroit in June; but the organization of particular sections will be announced through the medical press as rapidly as officers are elected by the Special Committee.

In accordance with the wish of the Committee on Permanent Organization, as expressed in Special Regulation No. 4, Drs. I. N. Love, A. B. Richardson, L. S. McMurtry, R. B. Hall, T. V. Fitzpatrick, and Charles A. L. Reed, met in Cincinnati and signed the legal form of application for Articles of Incorporation of the Pan-American Medical Congress, which Articles of Incorporation were duly issued by the Secretary of the State of Ohio, under date of March 15, A.D. 1892. At a meeting of the Incorporators held March 16, 1892, the following regulations, general and special, recommended by the Committee on Permanent Organization, were formally adopted as the organic law of the Pan-American Medical Congress, in accordance with the laws of Ohio, and all elections had by the Committee on Permanent Organization, in accordance with such regulations, were confirmed and made a part of the laws of the Congress:

GENERAL REGULATIONS.—*Title.*—1. This organization shall be known as the Pan-American Medical Congress, and shall meet once in —— years.

Membership.—2. Members of the Congress shall consist of such members of the medical profession of the Western Hemisphere, including the West Indies and Hawaii, as shall comply with the special regulations regarding registration, or who shall render service to the Congress in the capacity of Foreign Officers.

Officers.—3. The Executive Officers of the Congress shall be residents of the country in which the Congress shall be held, and shall consist of one President, such Vice-Presidents as may be determined by special regulations, one Treasurer, one Secretary-General, and one Presiding Officer and necessary Secretaries for each section, all of whom shall be elected by the Committee on Organization, and there shall be such Foreign Vice-Presidents, Secretaries, and Auxiliary Committees as are hereinafter designated.

The Committee on Organization.—4. The Committee on Organization shall be appointed by the representative medical association of the country in which the Congress shall meet. This committee shall select all domestic officers of the Congress, and shall at its discretion confirm all nominations by members of the International Executive Committee, and in the event that any member of the International Executive Committee shall fail to nominate by the time specified by special regulation, the Committee on Organization shall elect officers for the country thus delinquent. It may appoint vice-presidents and auxiliary committeemen in foreign countries independently of nominations by the members of the International Executive Committee. It shall appoint Auxiliary Committees, arrange for the meeting, and frame special regulations for the session of Congress for which it was appointed. It shall make a report of its transactions to the opening session of the Congress.

The International Executive Committee.—5. There shall be an International Executive Committee, which shall be appointed by the first Committee on Organization, and which shall consist of one member for each constituent country. This committee shall hold permanent tenure of office except that when a member shall fail to be present at a meeting of the Congress, his office shall be declared vacant and the vacancy be filled by election held by the registered members from the country from which he was accredited. In the event of no representation whatever from the country in question, the members of the International Executive Committee present shall determine what disposition shall be made of the office. It shall be the duty of each member of the International Executive Committee to nominate from the medical profession of his country one Vice-President for the Congress, and one Secretary for each section of the Congress, and to forward the same to the Chairman of the Committee on Organization; except that in any country in which the Congress shall meet it shall be the duty of the member of the International Executive Committee for that country to request his representative national medical association to appoint a Committee on Organization, which Committee on Organization shall discharge the duties designated in Regulation 4. Members of the International Executive Committee shall also nominate such Auxiliary Committees, and shall furnish such information as the Committee on Organization may request.

6. The Committee on Organization may at its discretion cause the Congress to be incorporated, which incorporation shall hold only until the final disbursement of funds for the session held in that particular country. In the event of such incorporation such officers shall be elected and in such manner as may be required by law.

7. The following shall be considered as the constituent countries of the Pan-American Medical Congress: Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chili, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, San Salvador, Colombia, Costa Rica, Ecuador, Guatemala, Haiti, Hawaiian Islands, Santo Domingo, Spanish West Indies, United States, Uruguay, Venezuela, Danish, Dutch, and French West Indies.

8. The Sections of the Congress shall be as follows: (1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynecology and Abdominal Surgery, (6) Therapeutics, (7) Anatomy, (8) Physiology, (9) Diseases of Children, (10) Pathology, (11) Ophthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopædics, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogics, (21) Medical Jurisprudence.

Languages.—9. The languages of the Congress shall be Spanish, French, Portuguese, and English.

Auxiliary Committees.—10. The Auxiliary Committee shall consist of one member for each medical society or one for each considerable centre of population in each of the constituent countries of the Congress. Nominations for the Foreign Auxiliary Committee shall be made to the Chairman of the Committee on Organization by the members of the International Executive Committee, each for his own country, except that in the country in which the Congress is to be held nominations shall be made by

the Committee on Organization. Appointments on the Auxiliary Committee shall hold only for the meeting for which they were made. Members of the Auxiliary Committee shall be the official representatives of the Congress in their respective localities. It shall also be their duty: (1) To transmit to the profession of their respective districts all information relative to the Congress forwarded to them for that purpose by the General Officers. (2) To co operate with the Officers of Sections in securing desirable contributions to the proceedings of the Congress. (3) To furnish to the General Officers such information as they may request for the purpose of promoting the interests of the Congress. (4) To cause such publicity to be given to the development of the organization as will elicit the interest of the profession and secure attendance upon the meeting, and they shall discharge such other duties as will promote the welfare of the Congress.

Special Regulations of the First Congress.—*Time and Place of Meeting.*—1. The First Pan-American Medical Congress shall be held in the City of Washington, D. C., September 5, 6, 7, and 8, A. D. 1893.

Registration.—2. The Registration fee shall be $10.00 for members residing in the United States, but no fee shall be charged to foreign members. Each registered member shall receive a card of membership and be furnished a set of the "Transactions."

Abstracts, Papers, and Discussions.—3. Contributors are required to forward abstracts of their papers, not to exceed six hundred words each, to be in the hands of the Secretary-General not later than July 10, 1893. These abstracts shall be translated into English, French, Spanish, and Portuguese, and shall be published in advance of the meeting for the convenience of the Congress, and no paper shall be placed upon the programme which has not been thus presented by abstract. Papers and discussions will be printed in the language in which they may be presented. All papers read in the Sections shall be surrendered to the Secretaries of the Sections; all addresses read in the General Session shall be surrendered to the Secretary-General as soon as read; and all discussions shall be at once reduced to writing by the participants.

Incorporation.—4. The Chairman of the Committee on Organization shall cause the Congress to be incorporated under the laws of Ohio, and fifteen trustees shall be elected in accordance therewith, who by by-laws and through the Executive Committee shall supervise all receipts and disbursements by the Treasurer in accordance with the laws of Ohio. The President, Secretary-General, Treasurer, the Member of the International Executive Committee for the United States, and Chairman of Sections shall be *ex officio* members of the Board of Trustees.

Foreign Nominations.—5. All nominations by the International Executive Committee must be in the hands of the Chairman of the Committee on Organization by June 1, 1892, and in default thereof the Committee on Organization shall elect officers for countries thus delinquent.

The Organization of Sections.—6. The officers of each section shall consist of —— Honorary Chairmen, who shall be residents of the constituent countries of the Congress; one Executive Chairman, who shall organize the work of the Section, direct its deliberations, and deliver an inaugural address at its opening session; one English-speaking Secretary and one Spanish speaking Secretary, residents of the United States, who shall co-operate with the Executive Chairman in conducting the correspondence of the Section; and there shall be one Secretary for each Section, resident in each additional constituent country of the Congress.

Domestic Auxiliary Committee.—7. The Auxiliary Committee for the United States shall be elected by the Committee on Organization, and shall consist of one member for each local medical society, or, in the absence of medical organization, then one in each considerable centre of population, which Auxiliary Committee shall co-operate with the Committee on Organization and with the General Officers in promoting the welfare of the Congress. Nominations for the Auxiliary Committee shall be made by members of the Committee on Organization, each for his own State, except that in the failure of any member to make such nomination by January 1, 1892, or in the inadequacy of the same, the Chairman of the Committee on Organization shall supply the deficiency.

Executive Committee.—8. The Board of Trustees shall designate seven members, including the President, Treasurer, Secretary-General, and Member of the International Executive Committee for the United States, who shall comprise an Executive Committee which shall transact all business of the Congress *ad interim* in accordance with by-laws adopted by the Board of Trustees.

Amendments.—9. Amendments to these Regulations can be made only by the International Executive Committee on a majority vote, ten members constituting a quorum, at any meeting of the Congress.

Pursuant to the Laws of Ohio and the Regulations adopted as above, and in accordance with nominations by the Committee on Permanent Organization, the Incorporators elected fifteen Trustees as follows: Dr. W. T. Briggs, Tennessee; Dr. George F. Shrady, New York; Dr. P. O. Hooper, Arkansas; Dr. S. S. Adams, D. C.; Dr. H. O. Marcy, Massachusetts; Dr. J. F. Kennedy, Iowa; Dr. H. D. Holton, Vermont; Dr. L. S. McMurtry, Kentucky; Dr. N. S. Davis, Illinois; Dr. Levi Cooper Lane, California; Dr. I. N. Love, Missouri; Dr. Hunter McGuire, Virginia; Dr. J. C. Culbertson, Illinois; Dr. A. Walter Suiter, New York; Dr. C. H. Mastin, Alabama. Drs. L. S. McMurtry (Ky.), I. N. Love (Mo.), and W. W. Potter (N. Y.) were designated to act as members of the Executive Committee. The organization of the Congress is complete in British North America, the British West Indies, the Spanish West Indies, Guatemala, Nicaragua, United States of Colombia, Brazil, Uruguay, Venezuela, and the Argentine Republic. It is confidently expected that the nominations from the remaining countries will be in by June. It is expected to announce the completed organization of the Congress, its Sections, and Auxiliary Committees, domestic and foreign, by July 1, 1892. On behalf of the Committee on Permanent Organization, Charles A. L. Reed, *Chairman;* J. W. Carhart, *Secretary.*

Dr. R. H. Fitz has been appointed Professor of the Theory and Practice of Medicine in the University of Harvard.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 3, 1892.

ALFRED L. LOOMIS, M.D., PRESIDENT IN THE CHAIR.

Cases of Appendicitis Illustrating Different Forms of the Disease, with Remarks.—DR. CHARLES MCBURNEY read the paper (see p. 421).

Relation of Physician and Surgeon.—DR. FRANCIS DELAFIELD was called upon to open the discussion. He thought the point of view of the physician and that of the surgeon regarding appendicitis must differ considerably. The physician was called in to make a diagnosis and to give advice as to what should be done, while the surgeon was called in to do it. The responsibility in the two positions was not the same. He would limit his remarks to the class of cases discussed in the paper. The first three were, he thought, of a kind which did well under an operation—they all recovered. They might also have recovered without an operation, but that we did not know. Then the surgeon had the advantage in that when his patients recovered they were not liable afterward to have abscess, or septic poisoning, or recurrent attacks. But there was one drawback to a cure by surgery, namely, leaving a weak abdominal wall, with the danger of hernia. A cicatrix was left which was very apt to give way, and many patients had to wear a bandage. As to the fourth case, or one of acute gangrene, there should be but one opinion. He doubted whether an appendix, the seat of acute gangrene, ever got well without surgical interference. Here only an early operation would save life. In cases of the type of the fifth one there was again ground for a difference of opinion. If between attacks the general health was not what it should be, and especially if pain was becoming more severe, the indications for interference became more urgent. One could not always be sure of the diagnosis of appendicitis. He had seen errors in this respect. In the sixth case, also, if one could be sure of his diagnosis, an operation should always be performed. Left to itself the case, as shown by appearances at the operation, would have terminated in general peritonitis. But we could not always say that a perforation would not become hemmed in.

An Effectual Remedy.—DR. L. A. STIMSON thought there were many more risky operations undertaken for the relief of conditions of less severe nature than the one for which the operation discussed in the paper was undertaken, and the curative results were far from certain. It had been, and he supposed would long be, the custom to put up an imaginary individual who proposed to cut down upon every appendix which might become irritable, and to demolish him. He did not believe, however, that such an individual existed. He knew of no one who proposed to remove every appendix which might become inflamed. It was only proposed to remove the appendix in time. That proposition introduced an element of uncertainty. For the present we must bear with that uncertainty. He thought the risks of the operation had come to be better known than the risks of the condition for which it was a remedy. He heard of the cases which recovered, but not of the great many which died. Within a month he had learned of three in which death had taken place because of that peculiar failing—tendency to delay an operation. He thought it was better to have a soft spot in one's abdominal wall than a soft spot in the appendix, not to mention the liability to have no abdominal wall at all if an operation were not performed. A cure by medical means, when it took place, was, in the majority of instances, only an adjournment of the case. The cases in which we were in doubt were those in which the operation might perhaps be called for as urgently as those in which the indications were clear.

Distinction Between Appendicitis, Typhlitis, and Perityphlitis.—DR. A. JACOBI thought the indications for an operation would vary according to the tissues involved in inflammation near the cæcum, and that there were means of making a probable diagnosis aside from an exploratory incision. Inflammation in this neighborhood generally was characterized by suddenness of attack, by swelling, and by pain, yet the anatomical changes were not by any means always the same. In some cases we had to do with an affection of the appendix, such as had been described, in others with a typhlitis or inflammation of the cæcum proper, and in a third class of cases with disease in that neighborhood, or a perityphlitis. This meant phlegmon, or inflammation, and, frequently, suppuration of the loose connective tissue around the cæcum. These three conditions were frequently mistaken one for another. Yet, as a rule, appendicitis, or inflammation of the appendix from a foreign body or concretion within it, was not characterized by large swelling. For his own part, he should be in favor of cutting down just in those cases in which there was little swelling, but where other symptoms were prominent. The largest tumefactions were found early, not in appendicitis, but in typhlitis or perityphlitis, or connective-tissue inflammation and suppuration. In cases with large swelling occurring early he felt most inclined to wait, and try opium, the ice-bag, etc. In connective-tissue inflammation the disease might be outside the peritoneal cavity, the appendix having nothing to do with it, and suppuration might be reached by simple incision. Yet, as in a large number of cases the diagnosis could not be accurately made, we were in doubt as to the propriety of an operation.

Why Appendicitis Occurs Oftenest in Children.—DR. JACOBI explained the greater frequency of primary attacks of appendicitis in children than in adults by the fact that the appendix was much larger in early life, and also by the fact that there was a valve like fold of the mucous membrane which prevented foreign bodies from getting out when they once entered. This fold gradually disappeared with years. Connective tissue about the cæcum was greater in the young also, which would account for the greater frequency of perityphlitis in them.

Dr. Jacobi also mentioned the practice of Sonnenberg, of Berlin, to make two operations in these cases, first to cut down to the peritoneum, then wait and see if pointing would not be induced to take place here.

Ten Months' Experience with Appendicitis.—DR. F. P. KINNICUTT read the following: During the past ten months, thirteen cases of appendicitis have come under my personal observation. Several of them I have had the opportunity of observing from the manifestation of the initial symptoms until either resolution occurred or surgical interference was practised. Nine were believed to be cases of catarrhal appendicitis, and a successful operation in six confirmed this opinion. In three, resolution, without operation, occurred. Three cases were of the perforative variety, in which perforation and a more or less gangrenous condition of the appendix was found. Two of these made an excellent recovery after operation. One case proved fatal, a general septic peritonitis being present thirty-six hours after the development of the initial symptoms. The thirteenth case was one of tubercular peritonitis. In one of the cases of the catarrhal form four well-marked attacks occurred under my observation during the above-mentioned period, the last a month since. In a second case, two attacks occurred in a period of three months, both also under my observation; in a third case, two attacks in four months; in a fourth, twelve attacks in twelve years; in a fifth, thirteen in two years; in a sixth, three attacks in four months; in a seventh case, eight in three years; in an eighth, three attacks occurred in one year. In the ninth case, the first attack occurred twelve years before operation; a second slighter one a year later. From this date there were frequent recurrences of paroxysms of pain, of short duration. During the three months before operation these were so frequent as to continuously disable him.

With a rather rapidly increasing experience, I have

ventured to formulate in my own mind certain impressions, an expression of which may serve as subjects for discussion and criticism. They may be summarized partially, as follows: The frequency of recurrent attacks in catarrhal appendicitis; the great probability of such recurrence when the physical signs, several weeks after an initial attack, reveal the presence of a small tumor, oftentimes no larger than the distal phalanx of the thumb; in the inguinal fossa, which points to the presence of an enlarged appendix, with thickened walls and adhesions of greater or less extent. In such cases a more or less frequent or constant sense of discomfort, varying much in degree, is experienced in the intervals of the attacks. My experience leads me to believe that medicine is without avail in such cases, and that eventually they must submit to operation for relief.

Another vivid impression that I have received concerns certain symptoms attending perforation, which I believe to be of practical import. With continued study of the symptoms of catarrhal appendicitis I am inclined to believe that a sense of discomfort or uneasiness in the region of the cæcum is very generally experienced, for a variable period of time, before the onset of the more pronounced and characteristic symptoms. On the contrary, in the perforative form the first symptom of the attack and of actual perforation is often agonizing pain, usually more or less localized, accompanied with vomiting, without elevation of temperature preceding or accompanying these symptoms, to be followed by a period of twenty-four or even forty-eight hours of deceptive calm, during which the patient is also apyretic or nearly so, this state to be again succeeded by a gradual rise of temperature, constitutional disturbance, and symptoms of a localized peritonitis, which may rapidly extend.

In conclusion I shall venture to express a personal opinion in regard to the initial treatment of attacks of appendicitis by means of laxatives, an opinion opposed to the practice of many physicians, and which I trust will be fully discussed. It is based on clinical experience and is that such treatment is unwise, if not distinctly harmful. In all cases of appendicitis, of whatever form, which have been under my personal care, or in which the treatment has been advised by me, opium has been given in doses sufficient to relieve pain and presumably to control intestinal peristalsis.

In the catarrhal form a movement of the bowels has been easily effected, and with benefit to the patient, at the expiration of three or four days by means of a simple enema. In the three cases of perforative appendicitis mentioned above, rather profuse purgation had been practised, previous to the time they came under my observation.

Appendicitis Usually Catarrhal.—Dr. Robert Abbe said the impression had been growing with him that to start with there was but one form of appendicitis, namely, the catarrhal. The cases in which the appendix or a portion of it was gangrenous had, according to his observation, given a history of previous attacks, leading him to believe there had been a catarrhal condition which had at last shut off the circulation and led to gangrene. He had seen no difference between cases occurring in children and in adults. It had been said that cases with numerous recurrences did not tend to suppurate, but he thought this was an error, and had seen two cases to support his view.

Period of Quiescence Delusive.—Dr. Abbe thought periods of quiescence during an attack had proven delusive to many physicians. They followed shutting off of pus by lymph, but repeated outbreaks with exacerbations of the symptoms might go on to take place, followed by quiescence, until a fatal peritonitis resulted.

Recovery after General Peritonitis.—He said that out of about thirty-seven cases of appendicitis, operated upon by him the past three or four years, he could recall three or four in which recovery took place in spite of the fact that general suppurative peritonitis had already developed. Thorough irrigation was established by means of an opening in both loins. Therefore septic peritonitis following perforation was not necessarily fatal. Purgation should not be allowed, even in ordinary or mild cases of catarrhal appendicitis.

Where to Cut.—Dr. Arpad G. Gerster said that, although in Germany some surgeons operated even during shock in perforative appendicitis, he would prefer to wait until the patient rallied. In typhoid perforation he would operate at once. Regarding the danger of hernia, he thought this would be lessened by choosing, as could be done in some cases, the place for cutting; that is, cutting directly into the abscess and avoiding the necessity for building up a dam with iodoform gauze and resulting scar tissue. He congratulated Dr. Abbe on his success with cases of general suppurative peritonitis. He would hereafter try his method of very thorough irrigation, and would hope to save some of those patients which so far he had not done.

The Surgeon an Armament of the Doctor.—Dr. W. H. Draper had observed that the surgeons would throw the responsibility of diagnosis in inflammations in the region of the appendix upon the doctor. That was right—the doctor should bear the responsibility of upholding the dignity of the profession. He had always maintained that a good surgeon was in these days one of the most important armaments of the doctor. He was perfectly willing, then, that the responsibility of making a diagnosis and directing the operation to be made by the surgeon should remain with the doctor. But it was at times impossible to make an exact diagnosis of appendicitis, one chief reason being that the disease was frequently simulated by some other condition He had recently seen a case of supposed repeated attacks of appendicitis, so diagnosticated by doctor and surgeon; finally a surgeon cut down and found, not appendicitis, but salpingitis. In another case, operated upon by Dr. Bull, there was not appendicitis, but stricture of the ilium about twelve inches above the cæcum. There was, then, a great deal of difficulty in diagnosis, but where there was doubt in the minds of physician and surgeon an exploratory incision should be made.

Mild and Severe Cases.—The President thought the fact should be recognized that some patients who had appendicitis did get well under medical treatment alone and had no recurrence of the disease. This had been proven by post-mortem examinations. Further, it was not only true that complete recovery might take place but clinically some cases ran a mild course while others ran a severe one. The mildness or severity of the case was not always measured by the mildness or severity of the more palpable symptoms. The temperature and the pulse, for instance, might not tell the story. One had also to take into consideration the general aspect of the patient. By a sudden change in the appearance of a patient we could sometimes say that the appendix was perforated. Even though the preceding symptoms had been mild and none of the usual signs of collapse were present such a condition requires immediate surgical interference.

Primary Attacks Usually Mild.—From a considerable experience he had been led to believe that the first attack of appendicitis was usually a mild one, and that the patient was likely to recover under purely medical treatment. All severer cases usually gave the history of a previous attack, although the former attack, owing to its mildness, may have been overlooked. If in a given case the history, carefully inquired into, excluded former attacks, and the aspect of the patient did not point to a severe type of the disease, he thought the medical man would be perfectly safe in assuming the entire charge of the case. But as soon as he had reason to suspect sepsis or rapid extension of the disease surgical aid is demanded.

Illustrative Cases.—In a case of an acute primary appendicitis, when the temperature was high, the pulse very rapid, the localized tenderness very excessive, although little induration might be recognized, if the patient did not show signs of commencing recovery within forty-eight

hours a surgeon should be invited to see the case. Again, if in any acute appendicitis it was found that the area of induration was rapidly increasing and the temperature ran high the operation should be done at once. Even if such a patient should recover from his acute symptoms without an operation, a large area of induration would remain which would terminate in abscess and an operation. During his last service at Bellevue he had had three cases of acute appendicitis in persons who had had former attacks, and he urged an operation, but it was refused, yet they all so far recovered as to leave the hospital. These patients, however, are menaced by constant danger. In chronic appendicitis with occasional exacerbations, even if no induration is present, an operation is indicated lest a fatal exacerbation should occur when surgical aid could not be reached.

The Crowing Done by the Wrong Fellow.—Surgeons, the President went on to say, were pluming themselves for having been pioneers in the efficient treatment of appendicitis. In view of this it might not be out of place to say that as many as ten years ago he had made the statement before this Academy that the time would come when surgeons would be compelled to take more advanced steps in the treatment of appendicitis. He was glad to-day that they had taken them. In conclusion he stated that whenever both physician and surgeon were in doubt as to the diagnosis of any case, and the symptoms were sufficiently urgent, an exploratory operation should be performed.

That Double Operation.—Dr. McBurney said, in closing, that the double operation mentioned by Dr. Jacobi as practised by Sonnenberg was not new. It was introduced and practised in New York many years ago by the late Dr. Sands, and was highly valuable when in earlier days surgeons waited until the simple incision of Parker could be made. To-day it was unnecessary and harmful, for if the abscess were deep the primary incision could not determine it to the surface. It endangered the peritoneum, and when the second operation came to be made one might have to pass through septic tissue, which was a marked disadvantage.

Regarding Dr. Draper's humorous allusion to the relations of the surgeon to the physician, he said he was still willing to be the surgeon, as long as, like the eagle, the surgeon was the one to get the fish although to the fish-hawk belonged the credit of catching it.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 25, 1891.

H. P. Loomis, M.D., Vice-President, in the Chair.

Crural Hernia in the Fœtus. — Dr. Elizabeth M. Cushier presented an embryo of three months, showing a very marked crural hernia. In this case there was no possibility of its being the result of traumatism. The integument had been broken through, and the intestines lay upon the thigh of the embryo. Dr. Mary Putnam-Jacobi, who had seen the specimen, had called attention to the unusual shortness of the umbilical vein, and the displacement of the liver, and had suggested that the hernia was the result of this displacement. This seemed a rational explanation, as the pressure of the intestines in the lower part of the abdomen might have distended Poupart's ligament and the crural ring, which is so small in the embryo, and in this way have favored the protrusion of the intestine.

Crural hernia in the young subject was very rare; in six thousand cases quoted by Gerhardt no instance of such hernia was found in a child under one year of age. Dr. Cushier had been able to find only one example of this condition occurring in the fœtus, and that one was reported by Picquet in the Bulletin of the Anatomical Society of Paris, in 1846. That case bore a striking resemblance to the one just presented. The mass was in the left crural region instead of the right, as in the present case; the integument was intact, and the liver as well as the intestine protruded from the ring.

Abscess of the Brain Following Otitis Media.—Dr. H. N. Heineman presented specimens from the case. The patient, a man twenty-one years of age, and a printer by occupation, stated that his mother was a drunkard, and that he had been intemperate, and had often been without sufficient food. He did not indulge in tobacco, and he gave no history of specific disease. Eight years before coming under observation he had scarlet fever, and this was followed by middle-ear disease, and a discharge from the ear, which remained constant for five years, and then recurred about four times a year. These relapses were usually the result of exposure to cold during a debauch, and while they lasted he was often delirious. He was admitted to Mount Sinai Hospital on November 20th. One month prior to this, the ear began to discharge, and after a week of this he suddenly fell to the ground without a cry, frothed at the mouth, and was unconscious for a moment, with the pupils dilated and the facial muscles twitching. From this time on, he was delirious, frequently violent, and displayed a decided suicidal tendency. The temperature remained normal. Owing to his condition, there was no opportunity for observing the character of the gait. As there was only slight mastoid tenderness and no indications for immediate operation, the treatment consisted in keeping the ear clean by thorough irrigation. He died suddenly two days after admission. At the autopsy, the lungs were decidedly congested, but otherwise normal; the heart showed a diminution of the fat as the result of insufficient food during life; the liver, spleen, and kidneys were enlarged and congested, and the kidneys were of stony hardness and their capsules were not adherent. The stomach was small and contracted, and its mucous membrane thickened and coated with considerable muco-pus. The calvarium was normal, except that its inner surface was rather dry. The convolutions of the brain over the upper, lateral, and posterior portions were somewhat flattened, the pia mater was dry and lustreless, and its vessels were congested. On attempting to remove the brain, there was a sudden gush of pus from a cavity formed by the dura mater and pia mater. This abscess had destroyed fully four-fifths of the cerebellum. The dura mater over the petrous portion of the temporal bone was covered with a layer of fibrin and pus, but there were no evidences in this region of carious softening or of involvement of the bone itself. There was no pus along the vessels, and the meningitis was surprisingly limited.

Such a history of discharge from the ear, either constant or intermittent, associated with the slightest cerebral symptoms, even if not accompanied by an œdema of the mastoid region, furnishes sufficient grounds for immediate operation. Where the temperature ranges high—103° F. or 104° F.—a delay of even forty-eight hours will in most cases be sufficient for the meningitis to have progressed so far that operation is almost hopeless. Although it hardly seems warrantable to undertake an operation when there are only such few symptoms, it must be remembered that the decision of this question rests not upon the individual case, but upon experience at large, and the opinion just expressed finds abundant confirmation among aurists. The patient should be given the benefit of the doubt; if the operation be properly performed it does no harm, and it may be the means of saving life.

The bacteriological history of ear disease is not without interest. Friedlander's bacterium, Wechselbaum's coccus, Fränkel's pneumonia coccus are among the more important organisms which had been found in these cases. Some observers had claimed that where the streptococcus and the staphylococcus pyogenes aureus were present, further complications were indicated. It had been conceded by all observers that no conclusions could be drawn from simple microscopical examinations, but recourse must be had to cultures and inoculations.

During the past two years Rosenbach has found in the course of his bacteriological studies one case of chronic otitis in which streptococci and staphylococci were present, and another case in which he found a bacillus which has not yet received a name, but which is apparently responsible for the disagreeable odor characteristic of the discharge in these cases.

A Case of Appendicitis with Perinephritic and Subdiaphragmatic Abscesses, and Perforation through the Lung, was presented by DR. J. S. THACHER. The patient died in St. Luke's Hospital immediately after admission, and this is all that is known of his history. About three weeks before he had pains in the right iliac region, with vomiting. When admitted to the hospital he had bloody and purulent expectoration. At the autopsy the vermiform appendix was found passing upward and backward behind the ascending colon to the region of the kidney, and for the greater part of its extent appeared normal, but the extremity was a little distended and about half an inch above the level of the umbilicus it opened into an abscess about the kidney. This abscess reached upward from a level about one inch below the umbilicus, along the front of the kidney, to the under surface of the liver; from here some sinuses led behind the liver to a large abscess between the liver and diaphragm, which contained about a quart of pus. From this cavity a small perforation through the diaphragm opened into the substance of the lung, the pleura at the base being adherent.

In connection with this case, Dr. Thacher also reported a somewhat similar case, on which he had made an autopsy several years ago. The patient, who was seventeen years of age, was treated in the Emigrant Hospital on Ward's Island, and the diagnosis was pneumo-hydro-thorax of unknown origin. The autopsy showed a perforation of the vermiform appendix. A small, hard piece of fæces, somewhat resembling a cherry stone, was found just outside the appendix in the iliac fossa; there was black, gangrenous, foul-smelling inflammation running up from this point along the kidney to the back of the liver, then to the vertebral column, and along this into the chest. The right pleural cavity contained a large quantity of thick pus with a very bad odor.

DR. HEINEMAN said that these specimens were always of great interest. The condition just described was generally looked upon as a rare complication, but he had personally met with not less than six or eight cases where a perityphlitic abscess had perforated into the pleural cavity, causing empyema and death. With our present clearer knowledge of perityphlitic abscesses, it seemed hard to believe that, not many years ago, even experienced and careful observers always expected them to point anteriorly, and if a tumor formed in this region posteriorly one of the last conditions thought of was perityphlitic abscess. For example, a woman came into the Roosevelt Hospital with a tumor pointing backward, and although seen by many of the visiting staff, no one suspected perityphlitic abscess. The cavity was incised and washed out, after which new sinuses kept constantly forming, and for a period of six years she gave the house-staff ample opportunity of becoming acquainted with the treatment of such sinuses. Finally, the prolonged suppuration caused waxy degeneration, and the patient died in 1871. He had presented the specimens to this Society in 1878. They showed that originally she had suffered from a perityphlitic abscess.

Primary Cancer of the Bladder.—DR. H. P. LOOMIS presented specimens of the above. The patient, Joseph D——, forty-seven years of age, was perfectly well up to four years ago, when he began to have renal colic accompanied by frequent and painful micturition with bloody urine. During these attacks, which lasted from four to eight days, he would pass small calculi, following which all symptoms disappeared, and he would be as well as ever for three or four months. Then would come a repetition of the trouble. The last attack occurred four days prior to his admission to Bellevue Hospital. The urine was then scanty, but the desire to urinate occurred every fifteen or twenty minutes, and after straining he would only pass a small quantity of blood containing a few clots. The diagnosis lay between stone in the bladder and a tumor. The majority of those who saw the case inclined to the latter. An examination of the bladder by a "searcher" gave negative results, for the organ was firmly contracted, and a large clot seemed to interfere with the manipulation of the instrument. On the third day after admission the patient became comatose, and died within twelve hours. At the time of making the autopsy, twenty hours after death, all the organs were found to be normal with the exception of the bladder and kidneys, which presented the following appearance: The bladder contained a fungoid mass, three and one-half inches in diameter, projecting from the posterior wall just above and around the left ureter. Its surface was ulcerated. A half-dozen hard nodules, varying in size from a pea to a small cherry, were scattered over the wall of the bladder. The walls of the bladder were hypertrophied, and hardly any normal mucous membrane could be found. There were no blood-clots or stones in the bladder. The left ureter was dilated to twice the size of a pencil, and its wall was very much thickened. The left kidney was of normal size, but on section hardly any kidney substance was found, its place being taken by a number of cavities communicating with the dilated pelvis of the organ. The cavities and pelvis contained a muggy yellow fluid, but no calculi. The right ureter was slightly dilated, and the right kidney somewhat enlarged. A microscopical examination of the organ showed a moderate amount of chronic diffuse nephritis, with intense congestion, and in places cloudy swelling.

Primary tumors of the bladder are of rare occurrence, although frequently the organ is involved secondarily, especially by extension from the uterus or rectum. The most common of the primary growths here is the "villous tumor." Ziegel says, "primary cancer of the bladder is of exceedingly rare occurrence." Besides the infrequency of this condition, the specimen was of interest as showing the difficulty in differentiating this condition from "stone," especially when the history of passing stones is as clear as in the present case. The stones passed by this patient during the last two years were repeatedly examined by the attending physician, yet none were found in the bladder or kidneys. The question naturally arises, was there a connection between the gravel and the cancerous development? Although the bladder-symptoms dated back four years, it is not possible to conceive of cancer of the bladder lasting over this period. The condition of the left kidney was unquestionably due to hydro-nephrosis, the growth in the bladder partially occluding the orifice of the left ureter. Undoubtedly the right kidney had for a long time kept up the excretion of the urine. Suddenly an acute nephritis was developed, and uræmic coma and death were the result.

DR. H. S. STEARNS remarked that about one year ago he had presented to the Society a very similar case, in which there was a primary cancer with colloid degeneration, but with no history of calculi.

Perforating Ulcer of the Vermiform Appendix.—DR. LOOMIS also presented a specimen of the above. The patient, a boy thirteen years of age, showed the ordinary symptoms of appendicitis for six days, when general peritonitis suddenly supervened, and he died within twenty-four hours. At the autopsy there were the usual signs of peritonitis. In the right iliac fossa was a circumscribed abscess containing about half a pint of foul-smelling pus, and a round, hard pellet of fecal matter, the size of a cherry, in which no foreign body could be found. The appendix was as large as a lead pencil, measured three and one-half inches in length, was non-adherent, and covered by a recent exudation of lymph. An inch from its free extremity was a ragged

opening large enough to admit the tip of the little finger; the end of the appendix was almost detached, and was only joined to the main portion by bands of necrotic tissue. The case was interesting, as undoubtedly early surgical interference would have saved his life. Dr. Loomis said that he was indebted to Dr. W. H. Haynes for the specimen.

The Society then went into executive session.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 21, 1892.

S. B. W. McLEOD, PRESIDENT, IN THE CHAIR.

Recent Investigations Relating to the Prevention of Diphtheria and Scarlet Fever.—DR. J. LEWIS SMITH read a paper on this subject. Prophylactic measures which were appropriate for diphtheria were for the most part also appropriate for scarlet fever, and for this reason he considered methods of prevention of the two diseases in one paper. To properly employ prophylactic measures one should consider the etiology and pathology. Scarlet fever was believed to be of microbic origin, although, unlike in diphtheria, bacteriologists had not agreed as to the specific microbe which caused it. The poison was tenacious of life, and easily communicable. It was often carried to a distance in clothing, etc. He had thought that in New York a frequent means of transportation was in school-books which the sick had handled in bed. Certain germs, including the streptococcus of Rosenbach, had been found in numbers upon the fauces, and it was not unlikely they had to do with the causation of the disease. At any rate, in scarlet fever there were facts pointing to the desirability of early applications of germicides to the fauces and nares in order that complications might not arise which often were more fatal than the original disease.

In diphtheria the theory that the cause lay in the Klebs-Löffler bacillus had come to be commonly accepted by bacteriologists. The bacilli were found in abundance in the pseudo-membrane and on the surrounding surface. It remained localized, while the poison which it produced entered the circulation and caused constitutional symptoms. The poison introduced into the circulation of rabbits and dogs caused paralysis similar to that seen in diphtheria. It had been said that there was a micro-organism similar to that of the Klebs-Löffler, but deprived of the virulence of the latter, and that this virulence might be assumed by it under certain favorable conditions of air, etc. There were some who stated that there was a pseudo-membranous inflammation or necrosis in scarlet fever similar to that seen in diphtheria, yet not due to the Klebs-Löffler bacillus.

A French writer had called attention to the fact that there were other micro-organisms, as the staphylococcus and streptococcus, which might cause poisons enhancing the systemic effect produced by the Klebs Löffler in diphtheria. These organisms might occur not only on the pseudo-membranous surface, but also in the interior of the body, while the Klebs-Löffler remained local. The latter germs were very long lived under favorable conditions.

While the most common mode of contracting diphtheria was by contact with the sick or infected articles, yet Dr. Sternberg had called attention to the fact that damp cellars and places where there was sewer-gas were favorite abodes of the disease. Dr. Smith believed that not an uncommon mode of spreading diphtheria was by "walking" cases. He had had a number of cases brought to his out door clinic at Bellevue Hospital.

He said, regarding the efficacy of attempts to prevent spread of diphtheria, that Baker had found a smaller average number of cases when attempts at preventing its spread during outbreaks were made than when no attempts were made. Granger, of Paris, had charge of wards for diphtheria into which during a number of years a large number of children had been admitted who had not diphtheria, yet none of them had contracted the disease. The precautions taken by him consisted in surrounding the bed with a metallic screen, use of heat for sterilizing clothes, of a solution of corrosive sublimate. For cleansing purposes nurses wore a blouse which was disinfected every day. Similar precautions were recommended by Dr. Smith in private practice. The doctor should put on a blouse or a sheet on entering the sick-room. He should stand behind or at the side of the patient while making an examination; or a pane of glass might intervene between doctor and patient during inspection of the throat. The hands, face, and beard should be washed with a solution of corrosive sublimate. Pictures, curtains, etc., should be removed from the room. Before sending healthy children away have them bathed in an antiseptic solution, put on clean clothes, and spray the fauces with a mixture of one part of peroxide of hydrogen to three of water, and the nostrils with one part to six. The physician should avoid other children for an hour or two after his visit. It would be well if the bedstead, floor, and walls of the room were washed every day with a solution of corrosive sublimate, as recommended by Grancher. Dr. Smith also prescribed the following disinfectant, which he believed to be useful in preventing the spread of the disease, and the occurrence of nervous sequelæ: Oil of eucalyptus, one ounce; carbolic acid, one ounce; turpentine, eight ounces; mix in a bottle. Add two teaspoonfuls to one quart of water, and allow to simmer near the patient constantly. He used this in scarlet fever also. The following was recommended for inunction in scarlet fever: oil of eucalyptus, one drachm, carbolic acid, one drachm; sweet oil, seven ounces; shake well, and apply to the entire surface every three hours.

Reference was made to Dr. Caillé's suggestion that the throats of school children be examined by doctors every day, each child using its own fingers for a spatula. Some doubt had been expressed as to the value of sulphur fumigation of rooms at the termination of diphtheria, etc. Dr. E. R. Squibb had stated that it was more effectual if the sulphur were burned over a receptacle containing water, or if the room contained aqueous vapor. It was better to wash the bedstead and floor with a solution of corrosive sublimate, and paint or whitewash the walls and ceiling.

The Most Beneficent Work of Man.—DR. C. A. LEALE thought that the most beneficent work of man was the prevention of disease. To him no disease was so alarming as diphtheria, not excepting small-pox. He related some experience, showing its terrible malignancy. He believed it was due to a specific germ, and that without this germ diphtheria could not arise. The difficulty of destroying the seed might be imagined when one recalled the fact that grains of wheat hundreds or thousands of years old had grown when put in a suitable soil. Further, consider the favorable conditions existing in this city for the propagation of diphtheria. In the rounds of charity work physicians had found as many as four families in a room not more than twenty feet square, the space occupied by each family being marked off by a chalk line. We had not room for the crowds of immigrants now coming over.

Regarding sulphur fumigation, he had found it most efficacious when combined with moisture. He mentioned one or two points in treatment, and said that he thought the less one interfered with the excretory organs, as by inunction of the skin in scarlet fever, the better it would be. Water was about all that was needed in a simple case. In diphtheria, acids, especially lemon-juice, were very efficacious.

Be Less Sympathetic with the Public.—DR. HENRY KOPLIK thought physicians would be justified in being less sympathetic with the public in their efforts to prevent

disease. What might be looked upon as severe measures were allowed for stamping out typhus fever, while great indifference was shown in scarlet fever and diphtheria, which often were more serious affections. We should advocate for those exposed, or liable to be exposed to these diseases, *maisons de santé*, or places of refuge.

DR. LEALE remarked concerning this point that there would not be hospitals enough in all New York to accommodate those exposed to diphtheria and scarlet fever.

A New Bandage.—DR. DANIEL BROWN demonstrated a new, but not original, mode of applying a bandage to take the place of a roller bandage when for any reason this was not best, or could not be applied. The arm, for instance, was wrapped with cotton, or, if required, a splint was applied, and then a single or double piece of cheesecloth was sewed on. Wherever too loose, extra rows of stitches were inserted.

Correspondence.

OUR BERLIN LETTER.

TUBERCULOCIDIN—AN IMPORTANT DISCOVERY BY KITASATO—DIPHTHERIA DEBATE IN THE BERLIN MEDICAL SOCIETY—CONGRESS OF BALNEOLOGY.

BERLIN, March 13, 1892.

TUBERCULIN is dead—long live tuberculocidin. This is the label of the new era, by one of the oldest and most renowned antagonists of Robert Koch—Edwin Klebs, in Zürich.

Professor Klebs published an article in the *Deutsch. Med. Wochenschrift*, about the end of last year, claiming that he could isolate from the raw tuberculin its active principle.

This he did by treating this tuberculin with the alkaloid reagents, and found an albumose which precipitated with alcohol. This substance, he claimed, contained the healing properties of the tuberculin without its previous dangerous contamination, and named it tuberculocidin or alexin.

In a publication which has just appeared, entitled the "Treatment of Tuberculosis by Tuberculocidin," Hamburg and Leipzig, 1882, Leopold von Klebs gives his therapeutical results of animals previously infected with tuberculosis, and also on human beings who contracted tuberculosis.

Klebs calls attention to the fact that during the treatment there is a considerable shrinkage and even utter disappearance of the tuberculous (previous) tissue.

Macroscopically nothing tuberculous could be found; microscopically, however, the remnants of tuberculous tissue could be identified, and in these latter fragments the bacillus tuberculosis had entirely disappeared.

This cure resulted after 25 daily injections of 1 ctgr. to 500 gm. body-weight in cases that were tuberculous about six weeks.

This dose, reckoned or estimated according to the body-weight, would be equivalent to 1 to 1.2 c.c. daily of tuberculocidin. Some patients can bear still greater doses than this. It would therefore take to cure a case of tuberculosis about twenty-five to fifty centigrammes of tuberculocidin. In milder cases we can attain the same result with smaller doses.

Until now Klebs has carefully watched 75 cases. He regards as completely cured 14, which equals 18.6 per cent. of all cases. Improvement in 45 = 60 per cent., under; not improved he has 14 = 18.6 per cent., and 2 deaths = 2.6 per cent.

All cases recorded in the above statistics are cases of severe and positively typical cases of pulmonary tuberculosis. Among the cured cases of Klebs there are cases of beginning meningeal tuberculosis and also cases of miliary tuberculosis. This proves that tuberculocidin is entirely different from tuberculin, inasmuch as it does not produce necrosis of the tissues and does not increase and scatter tubercle bacilli to different parts of the body as does tuberculin.

The author considers his treatment especially valuable, because his patients do not undergo a high feverish crisis, but can be treated as out-patients (ambulatorisch). The author furthermore does not desire by his method to suppress all pre-existing remedies. But he believes that it can eventually be a universally popular remedy if all additional care be added to it. At present it is very expensive, costing ten marks for 1 c.c. of one hundred per cent. tuberculocidin, but it will be cheaper later. The instructions which Klebs gives with his remedy are to commence with two to five milligrammes; if there is no reaction, or no severe reaction, to increase the dose very rapidly.

Hectic fever is no contra-indication for its use, but care must be had that the morning temperature does not rise very high. The dose can be raised rapidly to 1 ctgr. and then to 2 to 4 to 8 ctgr. The real treating dose for a person is 1.0 to 1.5 dcgr., divided into single injections of 5 c.c. of the undiluted substance. During the treatment the pulse, temperature, weight, several constitutional conditions, and appearance should be carefully noted.

After a period of four weeks a second series of injections can be commenced if the indications warrant same.

We have given a *résumé* of Klebs' announcement and sketched the details of his treatment. To criticise now would be too soon. We can, however, say that it seems to me as though Klebs has advantages which Koch did not have. Being in a small city (away from a million of people, as Koch had) he has more control and can command and watch his patients easier and have them much longer under observation, and, above all, he will be positive of not having a rush for treatment at least for some time, as Koch had.

Another advantage is the fact that Klebs lives near Davos, a prominent resort (winter resort) for phthisical patients. It would be welcome if Koch's discovery would at least find its scientific value, although post festum, through this new modification.

Although the tuberculin treatment in our hospitals has been, so to speak, abandoned, there is still considerable work done with the cause of tuberculosis—namely, its bacillus.

For one of the most prominent bacteriologists, the Japanese Dr. Kitasato has succeeded in producing the tubercle bacillus in pure culture from the sputum. Heretofore it needed the intervention of the guinea-pig, and then it could not be positive. Koch announced a simple method, which Kitasato has applied practically. It consists in procuring flakes of sputum from the deep respiratory tract, isolating some and washing some in about ten glasses containing sterilized water successively.

If then the sputum is torn or broken up in the last saucer (containing this sterilized water) we can easily tell if it contains tubercle bacilli or not. We can in this way take a small particle, and by inoculating blood-serum or glycerine-agar easily procure a clear culture of the bacillus, if present.

Kitasato has furthermore found that in closed pulmonary cavities there existed besides tubercle bacilli a clear culture of another species of bacteria. What importance or relationship the latter bears to tuberculosis, if any, has not yet been proven.

At the same time he found that all tubercle bacilli found in pulmonary cavities were dead. It was proven that agar tubes inoculated with same remained perfectly sterile. At the same time he could, after a few weeks, take and stain good-shaped bacilli from the point of inoculation on agar.

Guinea-pigs inoculated herewith remained perfectly healthy. From this we can make the following important deduction, viz.:

That although we can have tubercle bacilli in a tissue and prove them by a staining process, it does not follow that these same bacilli can reproduce themelves or

that they must be living. What importance this will have for the tubercle bacillus, viewing it from a biological standpoint, remains to be seen.

This important discovery is mingled with the fact that Dr. Kitasato will retire from his present position as assistant at the Institute for Infectious Diseases here in Berlin, to be honored by the position of Director of the Hygienic Institute just erected by the Japanese Government for bacteriological studies.

After tuberculosis, with the exception probably of the influenza, most importance and interest is at present centred in the diphtheria question, and it is here the much less known diphtheria bacillus exerts an important bearing on the prophylaxis and treatment of diphtheria.

One of our most prominent pediatrists, Dr. Adolph Baginsky, recently read a paper, with demonstrations, on "The Etiology of Diphtheria," before the Berlin Medical Society.

Baginsky tried to solve the question: 1, Whether the Löffler's bacillus was present in all genuine, severe attacks of diphtheria, and, 2, is there any relationship between the presence of the bacillus and the way in which the disease manifests itself? This Baginsky claims by investigation to answer affirmatively.

According to Baginsky there are two kinds of diphtheria, with membranous manifestations in the pharynx, which, according to the severity or the mildness of the attack, can be differentiated.

In the first we always have the presence of the bacillus, and which he regards as genuine diphtheria.

In the second, the bacillus is always absent, and is a relatively mild disease.

This question can be easily settled by a simple bacteriological examination of the membrane and the positive or negative presence of the Löffler's bacillus determined, and thereby the pathogenic character of the disease determined. This standpoint, as simple as it appears, has its drawbacks, as appeared during the discussion.

Dr. Troje (formerly assistant to Professor Baumgarten in Tübingen) called attention to the fact, that although a culture might prove the possibility of the presence of the Löffler's bacillus, yet to positively determine the presence and differentiate the Löffler's bacillus from other schmarozern in the pharynx, *e.g.*, the pseudo-diphtheria bacillus, there could be but one method, and that is animal experiment or inoculation with the supposed pathogenic culture.

As Dr. Baginsky did not use animal experimentation in all cases which he cited, so a considerable weight is lost thereby, and his deductions are not regarded with that same positiveness as otherwise. In this same strain others that took an active part in the discussion followed. There still remains some distinct clinical and practical criterion with which to positively diagnosticate cases of supposed diphtheria, and here is where we have a desideratum.

From this high and important question of the day, and painful question, let me step down to the meeting of the Society of Balneologists, which met on the 10th of this month (fourteenth meeting) under the presidency of Professor Liebreich.

Between beer and sandwiches we have sometimes heard the settlement of many difficult scientific problems in a sociable manner.

Especial mention should be made of a paper read by Dr. Weissenburg Colberg entitled "The Treatment of Gastric Neuroses," in which a very active discussion followed by Professor Ewald and Dr. Boas; "Treatment of Eczema," by Dr. Lassar; "Our Present Standpoint in the Diabetes Question" (referant, Dr. Jacques Mayer, in Karlsbad); "The Treatment of Tuberculosis by Koch's Method," by Dr. Römpler, in Görbersdorf—a paper, by the way, which had no discussion, and for this latter reason pleased everybody present. Lastly may be mentioned a paper read by Dr. Posner, of Berlin, entitled "The Treatment of Excessive Uric Acid Formation," with some other papers of minor importance. As the constitution and by-laws of this society call for sociable meetings after the scientific part is terminated, so there was accordingly a banquet, with ladies attended by scientists and physicians (not necessarily all members of this Balneological Society), also their relatives and friends. This was especially well attended this year.

SUPERNUMERARY MAMMÆ.

To the Editor of the Medical Record.

SIR: In your issue of October 10, 1891, I contributed Case IV. (Fig. 5), to Dr. McGillicuddy's paper on "The Mammæ and their Anomalies." I feel constrained, therefore, to answer Dr. Williams's criticism on this case, published February 13, 1892.

The doctor objects to the identity of this supernumerary mammary gland because 1, of its situation; 2, that it has not been adorned with an areola; and 3, nipple. Ergo, lacking these requisites (?) it should not be accepted without more conclusive evidence. Let us see, "when we speak of a part as anomalous we mean that it varies *at birth* from the ordinary or typical form."

1. It is absurd to dispute the genuineness of the gland on the grounds of its situation, because illustrations are too numerous in the "prodigious literature of the subject" to deny the possibility of a mammæ existing on any external part of the body where glandular tissue (elements) may develop.

And because its relation to the normal gland is so intimate that there may be an anatomical connection (as exemplified in Case IL, Fig. 4) between the two, which is impossible to define, or determine, owing to the patient's unusual pectoral development.

I related the case to Dr. McGillicuddy and some particulars were purposely omitted.

2. The growth has existed since infancy. By titillation the gland enlarges, a faint pinkish circle, one-quarter inch in width, is exhibited, enclosing about a dozen follicles, forming a rugosity easily perceptible to the finger and clearly defined by a pocket microscope that I habitually carry. External to this areola are four or five strong, curly, brown hairs, corresponding to those found on each of her bona fide breasts. These points were well brought out in the photograph from which the cut is taken.

3. There was no well-defined nipple. This deficiency is of no importance, and detracts in nowise from my argument.

The growth was examined by three competent surgeons, who agreed that its structure was analogous to the rudimentary mammæ found in the immature of both sexes and the unmarried adult female.

The paper was read before a medical association numbering over seven hundred members, and not one word of adverse comment was made during its discussion. I believe my position sustained, and wish to remind my critic that there is more in heaven and earth than is dreamed of in his "polynestism."

M. C. O'BRIEN, M.D.

161 West 122d Street.

To the Editor of the Medical Record.

SIR: In your issue of February 13th, Dr. W. Rogers Williams, F.R.C.S. Eng., takes me to task for not being more prolix in my description of the cases of mammæ erraticæ, published last October. He says that several of my cases are so bizarre and unprecedented that they should not be definitely accepted without most conclusive proof as to their real nature. If the doctor will please state what more proof he desires, that can be obtained without a surgical operation, I shall be glad to satisfy him. Of the six cases that could in any way be questioned on account of their unusual location three of these had milk exuding from them, so I think that alone sufficient proof

of their glandular structure; so his several cases have become three, of which he specifies Cases IV. and VI. Case IV. (Fig. 5), sent me by Dr. O'Brien, has an areola, and she has had pain in all three glands during her menstrual periods, and "two years ago all the mammæ increased in size simultaneously." In Case VI. (Fig. 7), the other case he objects to, I should like to ask him what else it resembles. Yourself, Mr. Editor, having seen the original photograph, will say that the illustration by your own artist is a perfect copy of it. It is exactly the same shape, and as large as the normal breast of a young woman, and its lobular structure can be distinctly determined on manipulation. It has a nipple, and on its surface are seen large blue veins. This individual has been for years in an asylum where there is a staff of about twenty resident physicians, who change frequently, besides others visiting, and his case has never been doubted.

In regard to their unusual location I find from cases reported that, contrary to Dr. Williams's idea, hardly any portion of the body is exempt except the hands and feet, and within two months I have seen a case where there is a perfect nipple and areola at the outer border of the left glutæus-maximus muscle in a woman aged forty.

All the cases reported, with one exception, were brought to my attention by other physicians, and the majority of them have been exhibited before some of the New York Medical Societies.

F. J. McGILLICUDDY, M.D.

776 MADISON AVENUE.

THE DISPENSARY QUESTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In 1850 New York City had a population of 422,480, and the number of physicians, practising or otherwise, was 400. In 1890 the population was 1,624,418, and the number of physicians 3,276, so that since 1850 the population had increased four times, whereas the medical fraternity had increased itself eight times. If the doctor was paid as well in the days of 1850 as now, with proportionately fewer and less ample dispensaries and hospitals than to-day, the occupation of the average doctor must have been much more lucrative then than at present. The development of special departments of medicine no doubt has done a great deal to increase the doctor's income. Since 1850, gynæcology, laryngology, dermatology, ophthalmology, otology, neurology, orthopædic, and some other special branches of surgery have made great strides, so that the field has been very much widened.

So far as the evil of dispensary abuse is concerned there is no doubt that there are many impositions. Yet it has been observed that a great many in moderate circumstances go to the dispensaries, not merely for the free service obtainable but because the service is much more skilled than they often obtain by even paying for it. On inquiry many had already been attended in private before coming to the dispensary, and, either because their money was exhausted or they were losing patience with their medical adviser, the dispensary was resorted to. Hence in this way the evil frequently originates. Finding they often obtain better results by consulting experts in the special branches of medicine at the dispensary, there is much stronger inducement to go to the dispensary than to the physician in private.

Another factor to be observed is, that a great many patients having trivial complaints who go to the dispensaries would not go anywhere if they had to pay for the advice.

VERITAS.

NEW YORK, April 2, 1892.

THE MODERN GREEK LANGUAGE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In an editorial of your issue of March 19, 1892, you suggest that the Greek language be adopted as the universal language for scientists. Indeed, the idea is a happy one. It would not only facilitate intercourse at the international congresses, but it would elevate the profession if every physician would be able to express himself in Greek. I agree with you in almost all what you say about the advantages of the Greek over the Latin, its being more flexible and more beautiful, equally clear and expressive, and at the same time much better adapted for use as a conversational tongue. But when you say "the modern form of the language, such as is in use in Athens to day, is easily learned," I beg to differ with you.

The real, new Greek is the vulgar, the every-day conversational language used by everybody, taught nowhere, spoken by all, exactly as the dialects in Switzerland. This vulgar Greek is called Ῥωμαΐϊκα, in contrast to Ἑλληνικά, the literary or old Greek. This latter is the written language, the language of the journals, the books. Whoever will become familiar with the Ἑλληνικά has to learn old Greek, because the vocabulary and the grammar are essentially old Greek. Ῥωμαΐϊκα is the conversational language, not only in free Greece but also is it the principal language of commerce and every day intercourse in the Levant. It is spoken in Macedonia, Roumelia, Constantinople, Smyrna, Trebizond, on the coasts of Asia Minor, on the islands of Archipelagoes, even in Alexandria and Cairo. For the traveller and business man in those countries it is important to undersand it.

The more educated a man is, the more the subject of the conversation is above the every-day business matters, the more the Ἑλληνικά will be made use of. Ῥωμαΐϊκα is found in literature exactly as we have Swiss and some German dialects in literature, namely in witty journals, in novels, comedies and poems.

Before me I have, through your kindness, a number of a Greek medical journal, dated Athens, February 8, 1892, the title is Γαληνός. It gave me great pleasure to read this publication, and I conceive, in perusing it, that anybody who has learned old Greek is able to understand the new Greek literature without having to study expressly again.

As everybody knows, the pronunciation, as it is taught in most schools, differs from the pronunciation of modern literary Greek, but this could easily be remedied. As a matter of course, the language to be adopted by scientists, would have to be Ἑλληνικά and not Ῥωμαΐϊκα, and I suppose you will agree with me in this.

Our German poet, Heine, when he went to school in Düsseldorf, used to pass daily in one of the corridors of the school building a life size crucifix. Observing the expression of pain on the face of the image, in his childish ideas he said, "Poor Christ, you no doubt suffered like myself very much when you had to learn the Greek irregular verbs!"

Another German schoolboy distinguished the regular from the irregular Greek verbs, saying that they got more thrashing in learning the latter than in learning the former.

If you really think that the Greek, as it is spoken in Athens, be it the vulgar or the language of the educated class, is easy to learn, I presume you mean for anybody who understands or has learned old Greek in school, otherwise you will find very few among those who have learned Greek in school to agree with you.

Ῥωμαΐϊκα, although it has become mixed with many foreign words during the long periods of servitude, is a genuine legitimate daughter of the classical Greek. Who understands the classical or the modern literary Greek has indeed no difficulty in learning the vulgar Greek.

Most respectfully yours,

A. ROSE, M.D.

[We did not mean that ancient Greek, as taught in our schools and colleges to-day, is easy to learn, but that is the fault of the antiquated and senseless methods of instruction rather than of the language itself. Modern Greek, Νεοελληνικὰ, although not differing materially from the old tongue, is yet somewhat easier in its construction, and, when taught according to the modern conversational methods, is not one whit more difficult to learn than French or German, even for one who has never studied the classical language.—ED.]

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Original Articles.

A CONTRIBUTION TO THE STUDY OF BULBAR PARALYSIS.[1]

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ALTHOUGH great progress has been made in the last two decades in general pathology, and especially in the pathology of the central nervous system, there are many points which are still dark and wait for an explanation. Not only is this true of the minute microscopic changes, but even of those which are of a grosser nature.

Partly through clinical experience, partly as a result of experimental physiology, we are accustomed and justified to look upon the development of certain symptoms and classical clinical pictures as being due to pathological changes in certain organs of the body, but although we can say with a certain degree of certainty, that this or that complex of symptoms is due to a change in this or that organ, experience at the post-mortem table or in the laboratory shows us that there are many exceptions to the rule. Such mistakes are especially apt to occur in the field of neurology, where the neuroses so often present the picture of an organic disease and thus cause difficulties of diagnosis. The opposite is equally true: the previous history of the case, the subjective symptoms, the objective signs, the entire aspect of the patient, all point to a functional trouble, and the post-mortem examination shows pathological changes which have caused the clinical symptoms.

Thus Charcot describes a case in which he had made the diagnosis of hysteria during life, but which after death proved to be a lateral sclerosis. Westphal, who had occasion to observe two cases of general neuroses, which during life presented the clinical picture of multipl sclerosis, was unable to find any pathological changes whatsoever at the post-mortem examination, and maintained "that there exists a general neurosis, which, neither by its symptoms nor by its course, shows any marked deviation from the complex of symptoms most frequently observed in multiple sclerosis."

Coming back from pathology in general to the special pathology of bulbar paralysis, we can say that the anatomical changes explain the clinical symptoms. Opposed to the clinical picture produced by a loss of function, and an atrophy of the muscles in the regions supplied by the hypo-glossus, facial, glosso-pharyngeal, accessorius, trigeminus, and vagus, we find an atrophy, more or less marked, of the corresponding nuclei and roots of these nerves in the gray matter of the bridge and medulla oblongata, and a sclerosis of the pyramidal tracts. And yet we find, not so rarely, that the loss of function of this or that nerve, even in the very chronic and progressive cases of Duchenne's disease, cannot be explained by a corresponding atrophy of its nucleus. Thus Charcot[2] found in a case in which the clinical symptoms of a bulbar-paralysis were highly developed, a well-marked degeneration of the hypoglossal centre, no change at all in the glosso-pharyngeal centre, and only a slight pigmentation of the otherwise normal cells of the nuclei, of the facial, vagus and motoric trigeminus, which to-day is no longer looked upon as an evidence of beginning atrophy. The pyramidal tracts, however, showed marked degeneration.

Eisenlohr,[1] in 1880, reported two cases of bulbar paralysis; in the one, an atrophy of the nucleus of the vagus accessorius could not be found, while the other centres in the floor of the fourth ventricle were markedly atrophic. In the second case the hypoglossal and vagus accessorius centres were atrophic; the vagus and glossopharyngeus showed no changes whatever, while the ganglionic cells of the facial and abducens centres showed only a slight pigmentation.

Similar observations have been made by Freund,[2] Thomsen, and others. On the whole, however, we can say that the anatomical changes found in chronic progressive bulbar-paralysis are constant, and consist either of a simple atrophy of the nuclei in the gray matter of the floor of the fourth ventricle, or, what is more frequent, a combination of an atrophy of these centres with a sclerosis of the pyramidal tracts. Cases have, however, been reported, three in number as far as I have been able to ascertain, which by their complex of symptoms, as well as by their course, duration, and termination, show a close relationship to the Duchenne form of bulbar paralysis, in which the most careful anatomical examination was unable to reveal any changes in the corresponding centres of the medulla oblongata, or any pathological changes whatsoever.

The case which I am about to report belongs to this category. The clinical observations and examinations were made by Oppenheim:

Herman H——, aged forty, was received at the Royal Charitè on March 25, 1889. Previous history: Parents died of diseases unknown to patient. Has six sisters, who are alive and healthy. Patient has been married for five years; has no children. Denies syphilis. States that he has never been sick before. Since his twenty-eighth year he has suffered from buzzing in the ears, which first began in the left ear and soon after in the right. At no time has there been any pain in or discharge from the ears.

Present disease began three weeks ago with difficulty of deglutition, which has gradually increased; patient noticed at the same time that he had no taste and "no power in his mouth," that is, he was unable to masticate his food well. Speech was accomplished by a nasal twang, and the words were not articulated sharply. Besides this, both eyelids began to hang down lower than usual and patient could raise them only with difficulty. He also complains of profuse night sweats and of a bad taste in his mouth when he arises in the morning. Sleep is somewhat restless; bowels are constipated. No difficulty of micturition. Appetite is good. Has no other complaints. The development of the disease has been gradual and painless and the symptoms arose in the order given above: the difficulty of deglutition set in first, a few days afterward the eyes became affected, and the disturbance of speech two days later.

Present Condition.—Patient is tall, pale, and somewhat emaciated. The well-marked longitudinal furrows of the forehead and the sinking down of the eyelids give the face a peculiar expression. On the right side the ptosis is complete, on the left side the upper lid hangs down so far as to cover the upper fourth of the pupil. Patient is able to raise the upper lids a trifle if he makes

[1] A paper read before the Berliner Verein für Psychiatrie und Nervenkrankheiten.

[2] Charcot: Archive de Physiologie. 1870.

[1] Zeitschrift für klinische Medicine, i., 1880.

[2] Freund: Archiv für klinische Medicine.

an effort. The movement of eyeballs in every direction is unimpaired. Closure of the eyes is accompanied with less force on the right side than on the left. The lower half of the face is relaxed, the corners of the mouth drawn downward, but the action of all the muscles in this region is normal. The tongue is protruded in a straight line, is not atrophic and can be freely moved in all directions. Pupils are equal in size, and react well both to light and upon convergence. The voice has a nasal intonation. The soft palate is raised only slightly on phonation and very imperfectly. At present patient can swallow fluids without having them regurgitate through the nose—it is peculiar, however, that with every swallow he is forced to make two acts of deglutition. Solid food passes down very slowly; patient is forced to drink a great quantity of water, but it neither passes forward through the nose nor does it cause any coughing.

According to the report of the University Poliklinik for throat affections, the abduction of the vocal cords, especially of the left, is limited. The free edge of the left vocal cord, during phonation, shows a slight curve. A laryngoscopic examination made since then revealed no gross disturbance. Acuteness of hearing is markedly diminished. The membrana tympani are slightly retracted and somewhat thickened. The trapezii on both sides are of equal and normal power. There is not atrophy of the muscles of the upper extremities. The active movements are retained and the gross motoric power is not diminished. No rigidity of the muscles of the lower extremity. Tendon reflexes are not lightened. Active movements are retained. The gait presents nothing abnormal. Romberg's sign is absent.

Examination of Eye (Professor Uhthoff).—Bilateral ptosis, almost complete on right side. The movements of the globes are somewhat limited by a well marked paresis of the right rectus internus and of the left rectus superior.

June 1, 1889.—Patient now lays especial stress upon weakness of the masseter muscles; he becomes so tired after taking two bites that he is unable to continue eating.

June 18, 1889.—Patient states that he can chew better from day to day and also that he can see better, because his upper lids do not hang down so low.

June 28, 1889.—Patient states to day that he can swallow better. He is not able to whistle, but thinks it is due to the fact that he has not sufficient power of expiration. Soft palate is elevated only to a very slight degree on phonation.

September 12, 1889.—The ptosis on the right side has disappeared to such an extent as to leave the entire pupils uncovered. Ptosis on the left side is only median as to degree. During movements of the eyeballs upwardly the left one remains behind. The movements in all other directions are normal.

There is still a well-marked weakness of the orbicularis palpebrarum, while the action of the muscles of the lips is normal. The inability to whistle is not due to a weakness of the lips.

The voice is still markedly nasal and the words are not sharply articulated; however, improvement in this respect has also taken place. Examination of the electrical reaction:

Faradic current. { Nerv. facialis sinistra, 120 mm. R.A.
Nerv. facialis dextra, 120 mm. R.A.

Lively contraction of all the branches. Prompt reaction of the soft palate to the faradic current.

Galvanic current. { Nerv. facialis sinistra 20 El. 2 M.A.
Nerv. facialis dextra, 20 El. 2 M. A.

Reaction prompt, no reaction of degeneration. On the whole the electrical examination reveals nothing pathological.

Laryngoscopic Examination.—Vocal cords are of normal color, show no traces of catarrhal inflammation. During phonation a well-marked space remains between the vocal cords, the adduction of the left one especially is imperfect. Furthermore there is a well-marked paralysis of the crico ärytenoïdeus posteriores, the rima glottidis, instead of enlarging during a deep inspiration, becomes smaller.

Second reception in the hospital, May 8, 1890.

Status.—Patient was discharged in October, 1889, much improved, but was admitted to-day, his condition having become much worse. He cannot swallow, speak, or masticate well, the deterioration of his symptoms having occurred very slowly. While drinking, the fluids regurgitate through his nose. Speech is decidedly nasal, articulation very imperfect; S F J are pronounced very imperfectly, instead of B he says MB. The soft palate is not elevated at all during phonation. The reflexes of the pharynx are absent. The tongue is protruded in a straight line, is heavily coated, but neither inspection nor palpation reveal any evidence of atrophy. While patient is speaking, and also on other occasions, a loud stridor is heard during inspiration. He is unable to whistle, although the movements of the lips are perfect. The movements of the tongue in all directions are normal. The muscles of mastication are so weak that the lower jaw can be pressed downward with ease. Slight ptosis on the left side. Normal movements of the eyeballs. Therapy: Iodide of potash, galvanization of the medulla oblongata, faradization of the soft palate.

May 9, 1890.—Patient complains of weakness of the arms. Condition of general nutrition is very imperfect, the subcutaneous fat has disappeared to a great extent. The active movements of the upper extremities are retained, but the muscular force developed is below the normal; the abduction of the arm and the extension of the forearm are especially weak.

There is a well-marked paralysis of the posterior cricoarytenoid muscles; during inspiration the vocal cords do not separate, but, on the contrary, approach each other more closely. Deafness exists to the same degree as formerly. No atrophy of the small muscles of the hand. Movements of the head are retained in all directions and are executed with usual strength.

Ophthalmoscopic Examination (Professor Uhthoff).—Examination of the retina is negative. Slight bilateral ptosis, more marked on the left side than on the right. Reaction of the pupils normal, movements of the eyeballs in all directions perfect. At present fluids are swallowed without regurgitation through the nose. Deglutition is slow, difficult, and accompanied by numerous acts of deglutition. Softened bread is masticated very slowly, and then swallowed without much effort. Passive movements of the lower extremities meet with no resistance, the tendon reflexes are normal, and so are also the active movements The pulse rate is slightly increased, 104 per minute.

May 13, 1890.—Dysphagia is now complete and patient is also unable to masticate any food. Temperature is increased, 38.4° C. at night. No dulness on percussion is to be found over any portion of the lungs. A few consonant râles are heard above the clavicles.

May 14, 1890.—Patient has grown worse from hour to hour. Had to be fed with the stomach-tube. Lips are cyanotic, pulse is small and rapid; patient is seized with attacks of great anxiety. Temperature, morning, 39.1° C.; evening, 38.1° C. During the night from 13th to 14th, exitus lethalis.

Post-mortem Examination.—Some clotted blood in the longitudinal sinus. The inner surface of the dura mater is dry and glistening. The pia mater over both hemispheres is neither infiltrated nor œdematous, and can easily be separated from the surface of the brain, without showing any adhesions at any place. The ventricles are rather large, but show no pathological contents. The brain substance is anæmic but contains no softened nor sclerotic patches. The region of the corpora quadrigemina is of normal color, shape, and consistence. The

nasal ganglia with the medulla oblongata are removed *in toto* for the purpose of hardening (Miller's fluid). Macroscopically, the spinal cord presents a normal appearance. A few small tubercles are found on the surface of the left pleura. The lungs are hyperæmic, the cut surface somewhat granular, but no other evidence of bronchopneumonia or tuberculosis is to be found. After the lung had been taken out, however, a large tumor, about the size of a duck's egg, was found in the region of the large bronchi, firmly adherent to its surroundings, with caseous hemorrhagic contents (tuberculous gland). The muscles, as far as they are exposed, are normal in color, with the exception of the soft palate, which is somewhat pale.

Microscopic Examination.—The cord was examined in all regions. A serial section was made of medulla, bridge, the region of the corpora quadrigemina, and of the nasal ganglia, and over six hundred sections were mounted. The ascending frontal and parietal convolutions, the peripheric nerves, and the tongue and soft palate were also carefully examined.

1. Cauda equina and filum terminale. All bundles of nerves which were cut in a section through the cauda equina are normal, showing no traces of degeneration.

2. Lumbar region. The entire lumbar region of the cord is remarkable for the wealth of ganglionic cells and nerve-fibres within the gray matter. The ganglionic cells are of usual size, the nucleus and nucleolus well preserved, the prolongations are long, and the protoplasm contains no pigment. The white substance of the lateral and posterior columns does not show the slightest tendency toward sclerosis. The penetrating anterior and posterior roots are intact, the anterior roots, on transverse sections, present nothing abnormal, the individual fibres and the axis-cylinder are of normal size and the interstitial connective tissue is not increased.

3. The dorsal and cervical regions of the cord, the crossing of the pyramidal tracts, and the upper sensorial crossing are in every respect normal; no atrophy of the ganglionic cells, no degeneration of the anterior roots, no sclerosis of the pyramidal tracts.

The hyperglossal centre, in its entire length, shows an unusual number of cells with well preserved prolongations and a fine network of fibres. No changes can be found in the vagus, accessorius, glosso-pharyngeus column. The acusticus centre, both its external and internal sections, is sharply defined and perfectly normal. The centres for the facial and motoric trigeminus are absolutely healthy. The roots issuing from these centres, as well as the pyramidal tract in the region of the bridge and medulla oblongata are not degenerated.

Oculo-motor centre. The nucleus ventralis posterior, the nucleus dorsalis posterior, and the Westphal-Eddinger nucleus are normal. A fresh hemorrhage has partially destroyed the nucleus centralis and lateralis on one side, while those of the other are intact. But the red blood-corpuscles are absolutely unchanged, the tears in the tissues are fresh, and the margins of the destroyed tissue show no evidence of reaction, all of which point to the fact that hemorrhage occurred either during the death agony or at most a short time before death. Three other hemorrhages of the same character were found—one in the vagus centre one in the Westphal-Eddinger nucleus of the right side, and the third in the region of the corpora quadrigemina, just beneath the tegmentum, destroying the raphē. The nasal ganglia were cut into serial sections, neither the internal capsule, nucleus lentiformis, nor thalamus opticus showed either softening or sclerosis. The psycho-motor area of the cortex of the brain was subjected to a careful examination. The sections are thin, the stains with carmin nigrosin and according to the methods of Weigert and Pal are perfect, and, as far as we are able to judge, the tissues present nothing pathological.

In order to show that this case is not an anomaly or an abnormal case of bulbar paralysis, but that it represents a distinct clinical picture, hitherto undescribed as such, I will introduce in a concise form three cases which are in every respect similar to the above case, but were published as clinical and pathological curiosities. The first case of this kind was published by Wilks.[1]

"A robust girl, of healthy appearance, was admitted to the hospital on account of general weakness, she was scarcely able to stand or to move about. She spoke very slowly and had a slight strabismus. The diagnosis of hysteria was made. She remained in this condition about a month; her condition neither became better nor worse. She could scarcely move about; her speech and movements were so slow and measured that they made the impression more of a general lethargy than of any special paralysis. At the end of this period all the symptoms became exaggerated, and in a few days the picture of a bulbar paralysis was complete. Speech was very inarticulate, patient could swallow only with the greatest difficulty, and was unable to cough. The limbs were not paralyzed, patient was able to leave her bed and walk about. after some time dyspnœa set in, which rapidly increased and patient died within a few days. The medulla oblongata was carefully examined, both microscopically and macroscopically and no pathological changes could be found."

This clinical history is somewhat incomplete, but we see that the disease began with general weakness, paresis of one or more of the external muscles of the eye, and disturbance of speech, at first took a chronic course, then underwent an acute exacerbation, dysphagia, and dyspnœa setting in, and patient finally dying of paralysis of respiration. The pathological examination yielded a negative result.

The second case in chronological order is the one published by Oppenheim.[2] "Pauline Jabuke, aged twenty-nine, servant girl, was admitted to the nervous department of the Royal Charité on February 21, 1886. Patient states that she comes from a healthy family and has never been sick, until nine months ago, when she noticed a weakness of the hands, which slowly increased, and then attacked the lower extremities. Four weeks ago she noticed that her lips were becoming weak, that she could not retain food in her mouth very well. A few days later difficulty of deglutition set in, with regurgitation of fluids through the nose. All these disturbances gradually increased in intensity. Patient does not complain of any anomalies of sensation, or of pain and trouble during micturition.

Physical Examination.—Intelligence intact, no psychic disturbances. Pupils are equal, median size, and react to light very promptly. Ophthalmoscopic examination negative (Professor Uhthoff). Nothing abnormal about the conformation of the cranium. Slight, but undoubted paresis of both the superior and inferior branches of the facial. Speech has a nasal intonation, but is otherwise normal. The movements of the lips are not absent, but are very defective. The muscles of mastication are very weak, closure of the jaws is accompanied by very little force. The soft palate is elevated only very slightly during phonation. There is no atrophy of any of the muscles involved, no change of the electrical reaction. No disturbance of sensation. Pulse normal; respiration shallow and superficial. Patient complains of dyspnœa and difficulty in coughing. The active and passive movements of the head and upper and lower extremities are normal. The muscles show no atrophy or change in the electrical reaction, but there is a well-marked weakness or paresis which affects all groups of muscles equally and becomes manifest at every voluntary exertion. The tendon reflexes are normal; no disturbance of sensation. A careful electrical examination failed to reveal the slightest indication of a reaction of degeneration.

The case took a very chronic course, at times some of the symptoms improved, but, on the whole, patient went from bad to worse, the general paresis gradually increased,

[1] Guy's Hospital Reports, 1870. [2] Virchow's Archives, 1887.

the tongue and muscles of mastication became entirely paralyzed, irregular rises of temperature occurred, occasionally without any obvious cause, disturbance of circulation and respiration set in, and patient died, after having been under continual observation for nearly two years.

The post-mortem revealed nothing abnormal, except a "Schluckpneumonie." The medulla oblongata, pons, and the region of the corpora quadrigemina were cut into serial sections and carefully examined, but no evidence of degeneration was found either in the gray nuclei of the floor of the fourth ventricle or in the intramedullary fibre. The peripheric nerves, both cranial and those of the extremities, were examined, and no changes were found. In a word, the anatomical examination was negative.

The third case is the one published by C. Eisenlohr[1] and is remarkable for the remissions which occurred, and for the rapidity with which the symptoms changed even during the course of a single day.

"A Case of Ophthalmoplegia Externa, and Final Bulbar Paralysis, without an Anatomical Basis."—The patient was a girl eighteen years of age, in whom no traces of a hereditary or acquired syphilis could be found. She suffered from childhood with migraine, but whether or not the following symptoms occurred at first with such an attack could not be ascertained. Two years ago patient was suddenly attacked with diplopia and bilateral ptosis, which symptoms disappeared, however, after three weeks (iodide of potash). A year later these same symptoms reappeared, but the intensity and degree of the diplopia was subject to extensive variation. At certain periods of the day patient saw perfectly well, at others double. The ptosis was worse one day on the right side, the next day on the left, at times was absent. She was again treated with iodide of potash, and all symptoms disappeared for a year and a half, when, in connection with an attack of migraine the diplopia and headache returned, and at the same time patient experienced a weakness of both hands. Weakness of the lower extremities, dyspnœa, difficulty of deglutition, disturbance of speech, and weakness of the muscles of mastication followed in short order.

The physical examination revealed an almost complete ophthalmoplegia externa, the movements of the eyeball being almost nil, a bilateral, almost complete ptosis, a marked paresis of the superior and inferior branches of the facial, manifesting itself especially in weakness of the orbicularis palpebrarum and of the muscles of the lips. The tongue is in every respect normal. There is a well marked paresis of the muscles of mastication. The soft palate is elevated only very slightly during phonation, allowing fluids to regurgitate through the nose during the act of deglutition. Acts of respiration are shallow and superficial. The active movements of the head, upper and lower, are retained, but are accompanied by little force, showing well-marked weakness. This weakness is more marked in the extensors of the upper extremity than in the flexors, and more in the small muscles of the hand than in those of the arm or forearm. There is no atrophy of any of the muscles involved. The electrical examination reveals nothing abnormal.

Therapy: Rest in bed, iodide of sodium, mercurial inunctions.

The condition of patient was subject to rapid remissions, but gradually became worse, paralysis of circulation and respiration set in, and patient died two years after the first occurrence of the diplopia.

The post-mortem examination revealed no macroscopic changes in the brain and spinal cord. The microscopic examination showed the cord, medulla oblongata, pons, and peripheric nerves to be normal. Aside from a few fresh hemorrhages and a number of small but otherwise normal fibres in the roots of the facial and hypoglossus nothing pathological was found. In a word, the anatomical examination was negative, although the complex of clinical symptoms was supposed to be characteristic.

In order to avoid the necessity of repeating the clinical symptoms of each case, I have, for the purpose of comparison, drawn up the following table:

	Own Observation.	Case of Wilks.	Case of Oppenheim.	Case of Eisenlohr.
Beginning	Bilateral ptosis; disturbance of deglutition and speech; weakness of muscles of mastication.	Strabismus; weakness of extremities; disturbance of speech.	Disturbance of deglutition: disturbance of speech; weakness of muscles of mastication; weakness of extremities.	Bilateral ptosis; diplopia; weakness of the extremities.
Course and duration	Remissions; chronic; 1½ year.	Duration not given; chronic; acute exacerbation before death.	Remissions; very chronic; 2 years.	Chronic; 1½ year; remissions.
Oculo-motorius	Bilateral ptosis; paresis of two of the recti muscles.	Strabismus (?).	No involvement.	Bilateral ptosis; ophthalmoplegia externa.
Motoric fifth	Great weakness of the muscles of mastication.	Weakness of muscles of mastication.	Paralysis of the muscles of mastication.	Great weakness of the muscles of mastication.
Superior facial	Paresis.	Not mentioned.	Paresis.	Paresis.
Inferior facial	Paresis.	Paresis.	Paresis.	Paresis.
Glosso-pharyngeal	Difficulty of deglutition; paresis of soft palate.	Difficulty of deglutition; paresis of soft palate.	Difficulty of deglutition; paresis of soft palate.	Difficulty of deglutition; paresis of soft palate.
Hypoglossus	Free.	Negative (?).	Slight paresis.	Free.
Vagus	Paresis of vocal cords; disturbance of respiration and circulation.	Disturbance of respiration and circulation.	Paresis of vocal cords; disturbance of circulation and respiration.	Disturbance of circulation and respiration.
Electrical reaction	No degenerative atrophy; no reaction of degeneration.	Negative.	No degenerative atrophy; no reaction of degeneration.	No degenerative atrophy; no reaction of degeneration.
Extremities	Weakness.	Weakness.	Weakness.	Weakness.
Pathological changes	Central and peripheral nervous system normal.	Central and peripheral nervous system normal.	Central and peripheral nervous system normal.	Central and peripheral nervous system normal.
Cause of death	Paralysis of circulation and respiration.	Paralysis of circulation and respiration.	Paralysis of circulation and respiration.	Paralysis of circulation and respiration.

The question arises now, how are we to classify these cases? Do they present a distinct clinical picture which is sharply defined and can be clearly differentiated from the types of diseases described up to date? I believe that we can answer this question in the affirmative.

If we compare the cases, we will find that they agree almost throughout. By this I do not mean to say that every symptom which occurs in the one case recurs in every other, but that they agree in their mode of origin, in their course and termination, in their principal and characteristic symptoms, and that the clinical picture, considered as a whole, differs from the known form of diseases of the central or peripheral nervous system. In the first place, we have a disease of chronic duration. In the case of Wilks the duration is not given; the other cases, however, were under observation from one and a half to two years.

The first symptom is a weakness, a paresis, occurring in some regions supplied by a cranial or spinal nerve, and it seems that the oculo-motor is attacked first with preference, for three of the four cases began with a bilateral ptosis or a paresis of one or more of the other muscles supplied by this nerve. Then there follows, in

[1] Neurologisches Centralblatt, 1887.

slow progression, a disturbance of the function of the facial, both of its superior and inferior branches, of the motoric portion of the fifth, of the glosso-pharyngeal, accessorius and vagus. In but one case was the hypoglossal involved. But the affection is by no means limited to the cranial nerves, but in all cases special stress was laid upon a weakness of the extremities. Without being accompanied at any time with an atrophy of any group of muscles, or with any change of electrical reaction, the paresis gradually increases, in some regions, as, for instance, those supplied by the motoric fifth and the glosso-pharyngeal, to complete paralysis.

The course, as a whole, is chronic and progressive, although in the case of Wilks the development of the bulbar symptoms was completed within a week, and the case of Eisenlohr ended fatally two months after the appearance of dysphagia. Moreover, the cases are notable for the occurrence of well-marked remissions and rapid change of the intensity of some of the symptoms, so that, for instance, in the case of Eisenlohr, the diplopia came and went in the course of a single day, or that the patient was able to swallow well in the morning and at night suffered from dysphagia. However, it is to be observed that these remissions only affected individual symptoms, the disease, as such, taking a progressive course. Death was caused directly by the disease itself, by a paralysis of the circulation and respiration.

The anatomical examination in the four cases yielded a negative result. At least no changes were found in the gray matter of the floor of the fourth ventricle, which could explain the clinical phenomena observed during life. Only in one case (my own) did the examination extend to the cortex of the brain, without revealing, however, any pathological changes. Although the histological technique which is used in working the central nervous system is not of such an exact nature as to enable us to judge with certainty of the finer protoplasmic changes in the cells, I am convinced that, as far as the medulla oblongata is concerned in these cases, we can speak of an absolutely normal condition of this structure, since any pathological changes could have reached their full development, on account of the chronic course of the disease.

In short, we have to deal with a disease which is characterized by a paresis of all the motoric regions of the body, especially those supplied by the cranial nerves, the paresis gradually increasing in some regions to absolute paralysis, without being accompanied by atrophy or by a change of the electrical reaction of the affected muscles, ending fatally in the cases on record, the anatomical examination of the central-nervous system after death yielding a negative result.

The disease can be differentiated from the chronic, progressive, atrophic form of bulbar paralysis (form of Duchenne), *a*, by the absence of atrophy or change in the electrical reaction of the affected groups of muscles; *b*, by the participation in the general paresis of the superior branch of the facial and the oculo-motor, which are never affected in the Duchenne form of bulbar paralysis; *c*, by the rare participation of the hypoglossus, which is affected first in Duchenne's disease; *d*, by the presence of well-marked remissions, and by the rapid variation in the intensity of the symptoms; *e*, by the absence of any pathological changes after death.

It can be differentiated from acute bulbar paralysis and pseudo-bulbar paralysis by the mode of its development, its course and duration, and especially by the absence of any pathological changes after death.

Hysteria can be ruled out without much trouble. We have in these cases a sharply-defined complex of clinical symptoms, which is not to be found in hysteria. Moreover, all symptoms were absent in these cases.

An affection of the peripheric nerves, a peripheral neuritis, is capable of producing bulbar symptoms, as the cases published by Karst, Meyer, and Eisenlohr show. However, in these cases we would expect a degenerative atrophy of the affected muscles and a change in their electrical reaction, both of which signs are absent in our cases. Moreover, the peripheric nerves in these four cases were found to be normal after death, although Eisenlohr found a large number of small but otherwise normal nerve-fibres in the roots of the hypoglossal and facial.

In 1879, Erb,[1] with three cases as a basis, described a complex of symptoms in which he laid especial stress upon ptosis, weakness of the muscles of mastication, and weakness of the muscles of the neck, looking upon a paresis of the superior branch of the facial paresis of the tongue and extremities, and difficulty of deglutition, as being of secondary importance. A superficial comparison would lead one to the conclusion that the disease described in this paper and that described by Erb are identical. But a careful examination of the cases of Erb will show that the two affections differ in those points on which I lay most stress, namely, the presence or absence of degenerative atrophy and change in the electrical reaction; for two of the cases of Erb (the third was examined but once, and then disappeared from view) show a well marked atrophy and a corresponding change of the electrical reaction of the muscles of the tongue, neck, and of the masseters. A post-mortem examination was made in none of the cases, and the supposition which Erb makes in his article that his disease is a nuclear atrophy, a combination of poliencephalitis chronica, superior and inferior, has probably been verified by similar cases which have been published in the last few years.

If, as we have shown, these cases agree with one another, and we are unable to classify them with any of the above forms of nervous diseases, they must form a special class, and to this conclusion I have come.

The etiology of the disease is still a matter of conjecture. That it is a neurosis, as Oppenheim,[2] in speaking of his case, suggests, I doubt. However, the difference of opinion depends only upon the use of a term. Oppenheim thinks that it may be a neurosis, a functional affection, because he was unable to find any anatomical basis for the symptoms. He is not, however, of the opinion that one will never be found. The possibility that the affection may be due to a chronic intoxication, a ptomaïne or toxic-albumin poisoning, cannot be denied. We know of chemical poisons which affect only the motor apparatus of the body, and leave the sensory tracts intact. In the same manner we can imagine that a toxic agent, having its origin in the body, might act in such a manner upon the cortical centres of the brain, or on the peripheric nerves, as to bring about a complex of symptoms whose main characteristic is a slowly progressing paresis. In my case, we might look upon the large caseous tubercular bronchial gland as such a source of intoxication; in the other three cases, however, such sources are absent.

Finally, I would like to call attention to the possibility that the cause of the disease may be a pathological change in the cortex of the brain which has escaped our attention. The pathology of the cortex of the brain is still in its infancy, and the histological methods which we can make use of in the preparation of tissues hardened in Müller's fluid are not sufficiently exact to enable us to judge with certainty whether or not minute changes have taken place in the protoplasm of the ganglionic cells and their prolongation. In order to clear up this point we will have to make use of, in future cases, the more improved technique of modern histology, especially of methods of rapid fixation of the tissues, and of embedding in paraffin, which will permit us to make thinner section.

It is Chronicled in French journals as a fact of no little significance that the candidacy of a certain Mlle. Roussel has been favorably reported upon by a committee of the Rouen Medical Society. The old world is moving.

[1] Archiv für Psychiatrie. [2] Virchow's Archiv, 1887.

THE CYLINDRICAL VAGINAL PESSARY-TAMPON *VERSUS* OTHER PESSARIES—INDICATIONS AND CONTRA-INDICATIONS TO ITS USES.[1]

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From the early history of gynecology various supportive measures have been employed in the treatment of displacements of the uterus, Fallopian tubes, and ovaries; but in every instance where symptoms occurred there was found some coexisting pathological condition to which these symptoms might be referred as an etiological factor. Thus it has become a matter of opinion as to whether we should treat the displacement *per se*, the coexisting conditions, or both the displacement and the morphological conditions. Some gynecologists argue that the symptoms attending displacements, save in those cases due to neoplasms or perimetritis, are due chiefly to the malposition, that the concomitant conditions are merely complications and will be of little account when the faulty position shall have been rectified; while others believe that displacements are at first a production of, and later a complication of, the pre-existing disease, and that the chief desideratum is the bringing about of a physiological condition in the parts, and when this condition shall have been attained supports will be unnecessary, as the abnormality of position will either have rectified itself, or, if it still exist, will give rise to no untoward symptoms. Those holding to the first belief rely with implicit confidence upon the pessary and douches, and think if they fail to obtain satisfactory results it must be due to an error in selection of the instrument, to its improper adaptation, or that it has itself become displaced; and they are constantly bearing these things in mind to account for bad results. Those physicians holding to the more recent view place their main reliance not only upon support, but, in addition, local medication. This combined treatment is found in the cylindrical pessary-tampon.

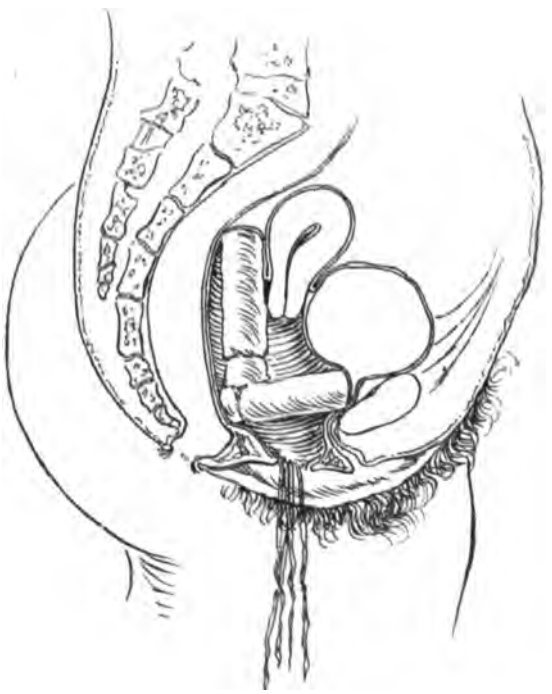

Fig. 1.

In the construction of pessaries many of the metals, wood, glass, ebonite, and rubber have been used, but of the various materials rubber seems to have the largest number of desired qualities, viz., smoothness, lightness, elasticity, resistance to action of vaginal secretions, and the ease with which it can be moulded to meet the requirements of each individual case. Uterine supports of such varied shapes have been employed that as many a gynecologist has devised a pessary to which his appellation has been attached as has the obstetrician his forceps, or the surgeon his artery-clamps; so that the variety of pessaries is legion. Although the pessary to a certain extent restores the displaced parts, thus relieving symptoms, diminishing pelvic congestion and the tendency to cystocele and rectocele, yet this effect is largely mechanical, there being but little curative action, as may be proven in many cases by return of the symptoms, and displacement when the treatment is discontinued for a time. Then, again, the benefits derived are to a great extent counterbalanced by the harmful effects of the pessaries, and not the least of these dangers, but the most formidable of them all, is probably perimetritis. During the past few years, since the pelvic cavity is explored with a great degree of safety, many of these cases have been saved from chronic invalidism or death. The untoward effects are chiefly due to two causes, viz., pressure and lack of cleanliness. From these causes a septic process is developed which may result in vesico-vaginal or recto-vaginal fistulæ, erosion of the cervix, septic endometritis, or may be of sufficient virulence to invade the appendages disastrously. It may be justly claimed that these results are not common to obtain in subjects wearing a pessary, but it can just as correctly be claimed that septic causes exist in each instance, that in every woman who wears this instrument there is a solution of continuity at the point of pressure varying in degree, and which may result as before stated, and that so long as it is worn the patient is in constant danger of such development. The care of the toilet of these parts, the use of antiseptic douches, etc., of course lessen the dangers, but unfortunately the majority of women wearing pessaries are among the worthy tenement class, those to whom general cleanliness is often a stranger; hence the care of these parts, although kept cleanly at first, is often neglected. It has been my lot in public practice to see many cases of erosions, both of the vagina and cervix, several cases of endocervicitis, a few cases of fistula arising from the wearing of pessaries, and some cases of perimetritis that were probably due to the same cause; but from the constant use of the pessary-tampon, extending over a period of four or five years, I have not seen over two erosions, and never an abrasion, in those cases where but one tampon was used. One extreme case of fistula I recall in which a pessary had been worn without removal for nine consecutive years, there resulting an opening into the bladder of sufficient calibre to admit the tip of the finger.

I claim for the cylindrical pessary-tampon all of the advantages found in a pessary, and in addition to its being fully as effective as a support, there is its medicinal action, which is a matter of great importance; and lastly, that it is a safe contrasted with a dangerous appliance. Perfection in construction, size, material used, and proper adaptation of the pessary-tampon to each individual case, is fully as important as in the use of pessaries. Lamb's wool, borated, plain absorbent, and other medicated cottons, have been used in the manufacture of pessary-tampons, but I prefer borated cotton prepared in thin layers, as it is antiseptic and can be readily made into the desired shape and density. Assorted sizes and lengths should be at hand, ranging from one and three-quarters to three inches in length, and from three-quarters to one and one-half inch in diameter. To make the pessary-tampon correctly is an important thing, as it is as much in the faulty manufacture as in other details of treatment that they are not in more general use to-day. The sections of cotton cut should vary from six to eighteen inches in length, according to the thickness of the cotton, and from one and three-quarters to three inches in width, varying with the length of the pessary-tampon desired. The prepared strip should be placed upon a clean, hard

[1] Read before the Society of the Alumni of Bellevue Hospital, March 2, 1892.

surface, and the roll begun as in a bandage; then the thumbs and first two fingers of both hands are used to continue the roll and to make pressure, while the third fingers are employed to make the ends true and firm. A moderate amount of force is required in construction, but it is not desired to make the mass entirely resisting. When support is the chief desideratum the cylinder should have the same density throughout; and at the ends this is especially important, as if not correctly formed at these parts its pessary action will be greatly impaired. When medication is chiefly desired, or a certain degree of hyperæsthesia obtains in the perimetrium, the end first inserted may be left somewhat soft, thus holding more of the medicament and affording all the support the patient can safely tolerate. The last turn of the cotton having been made smooth, a piece of strong twine, about eighteen inches in length, is wrapped twice about it and so tied that the ends of the twine are left of equal length. This cord serves not only to keep the pessary-tampon in shape, but also to aid the patient in its removal. For the medication of pessary tampons solutions of various drugs in glycerine have been employed. Among these the fifty per cent. solution of boro glyceride, in strength of from one to sixteen to one to six or eight holds a prominent place. To this solution may be added, if an astringent effect is desired, pulverized alum one to sixteen, or should the alum prove too irritating, as is sometimes the case, the acetate of aluminum may be used in about the same proportion. Many are the solutions used to medicate pessary-tampons, but, so far as I can distinguish, the above preparations will accomplish all that may be gained by any of the various complex mixtures. The pessary-tampons should be thoroughly saturated in the solution, and to this end it is better that they be left in the liquid for some time before being used. Preparatory to treatment the patient assumes the left semi-prone position, a long-bladed Sims speculum is inserted, the vagina is mopped out with a solution of corrosive sublimate, strength one to three thousand, and dried with a bit of cotton. When but one tampon is used it should always be inserted posterior to the cervix uteri. This is readily done in most positions of the uterus if an assistant holds the speculum, thus leaving a hand with which to hold the depressor; but if alone, I am in the habit of placing one end of the depressor at the postero-cervico-vaginal junction, and letting the other end rest upon the latero-vaginal wall. I make the application by sliding the pessary-tampon between the speculum and depressor into position, then holding it with the dressing-forceps while the speculum and depressor are removed, and then tilt the lower end of it toward the sacrum. The lower end of the pessary-tampon should reach to a point just above the internal sphincter ani, as at this point, where the rectum and anus form an angle, there seems to be a slight projection, which, aided by the backward and downward pressure of the bladder, is a material aid in holding the pessary tampon in position. If too long or too short to reach this point the position will be faulty, and it will either cause pain necessitating its removal or it will fall out. Pessary-tampons in average cases may be safely left *in situ* for from one to four days, but should they cause pain or much discomfort must be removed at once. It is well to advise a patient to this effect at the commencement of a course of treatment, and thus avoid unfavorable results. After removal of the pessary-tampon medicated douches of hot water are used once or twice a day, for one or two days, before a succeeding application is made.

FIG. 2.

Now let us consider some of the abnormal conditions of the pelvic organs in which the pessary-tampon has been used beneficially. Firstly, conditions of the uterus; secondly, of the tubes and ovaries, and lastly, of the bladder and rectum. In cases of uterine subinvolution, following either labor at term or abortion, having as complications catarrhal endometritis, anterior or posterior displacement of the uterus, with perhaps slight laceration of the cervix uteri and symptoms of menorrhagia or metrorrhagia, extreme nervousness, and maybe dysmenorrhœa, pessary-tampons usually act as a specific. A diminution in the size of the uterus may be noted from time to time, and coincident with this that the faulty position is becoming rectified as the muscular wall of the uterus regains its tone, that the endometritis is subsiding, that the laceration is healing, so that in a period of from four to six weeks oftentimes the patient may be discharged cured. By this time menstruation will have occurred at the proper time without dysmenorrhœa. The pessary action favors drainage, while the medicament improves the muscular tone, lessens congestion, and improves the pelvic circulation. I had a case illustrative of the above condition referred me by a physician a few weeks since—a Mrs. L——, who had continued to have irregular menstruation, and at times metrorrhagia, for the past year. There was a history of probable miscarriage at about the second or third week as a cause. The patient told me she had been under medical treatment for this condition since her illness began, and that she had not improved; also that she had been flowing continuously for a period of seven weeks previous to her first office visit. A careful examination revealed a subinvoluted, anteverted uterus, with slight cervical laceration. She was anæmic and extremely nervous. By applications of pessary-tampons twice a week, and douches daily, when the tampons were not in place, the uterus became of normal size, the leucorrhœa subsided, the next menstruation occurred upon the twenty-eighth day, extreme nervousness subsided, likewise her various aches and pains, so that at the end of two months' treatment she was restored to health. In this case I used care to pull down the cervix so as to place the pessary-tampon well up behind it, so that as involution should take place and the muscle of the uterus regain its tone it would raise the fundus into normal position. The majority of cases of slight laceration of the cervix, if treatment be commenced early, while the tear is recent, say within the third or fourth week after it occurred, may be entirely cured. In lacerations of longer standing, when a hypertrophic and hyperplastic change has taken place in and about the torn surfaces, the pessary-tampons should be used until a line of demarcation between the healthy and diseased tissues can be made out, and until the hard, indurated condition of the cervix has softened and become more of a normal color and feel; then is the time to do a trachelorrhaphy or amputation of the cervix. The same treatment should obtain in glandular disease of the cervix, and if carefully carried out there is no excuse for an imperfect result, provided all of the diseased tissue is removed at the operation. In nulliparæ, when dysmenorrhœa has occurred for a long time, and at last becomes so severe that the patient consents to an examination, and upon examination you find the uterus enlarged and the endometrium the subject of catarrhal inflammation, many physicians would dilate the cervix and make applications to the endometrium; but in a large per centage of cases I have found the pessary-tampon alone to accomplish a perfect cure. The pessary action tends to rectify any abnormal position, and the osmotic action

of the medicament diminishes the swollen condition of the endometrium, thus enlarging the internal os and doing in a different way what is done by the dilators, and the results seem to me to be more permanent. At the menopause, in cases where the endometrium is hyperæsthetic and the patient suffering much from reflex symptoms, the pessary-tampons will often anhihilate these unpleasant symptoms. I would suggest the same treatment in the excessive vomiting of pregnancy, thinking it might in certain instances relieve this reflex symptom. In retroversion of the uterus, with adhesions, when the appendages are apparently normal, by using graded sizes of pessary tampons, in a large per centage of cases the adhesions may be induced to separate and the patient made comparatively well. In the infantile and so-called superinvoluted uterus pessary-tampons benefit by developing the uterus, thus relieving the dysmenorrhœa and many times the functional sterility. Prolapsus uteri is treated successfully by the same method, save that the applications are made somewhat differently. Two pessary-tampons are used. The first should fit moderately close, and when well inserted reach to within half an inch of the junction of the rectum and anus. The second pessary-tampon should be inserted transversely to the first, the proximal end being placed against the upper urethra and bladder, while the distal end is slipped along the grove of the speculum, abutting against the first pessary-tampon and reaching to a point just above the internal sphincter ani. The crossed tampon should be of fairly good size, and of sufficient length to make a moderate amount of pressure on the ends. As the patient assumes the erect posture the weight of the uterus is supported mainly by the distal position of the transverse pessary-tampon. The anterior end of the transverse pessary-tampon is supported mainly by the pubic bone, while the distal end is held in place by the same structures that hold in the single pessary-tampon. This treatment is also very beneficial in utero-gestation complicated by retroversion, or prolapse of the uterus, by holding the fundus of the uterus away from the promontory of the sacrum until development has caused the uterus to rise out of the pelvis. A frequent cause of miscarriage is thus often avoided. In cases of congested and enlarged ovaries attended by prolapse the single pessary-tampons benefit. In these cases, where the enlarged ovary is posterior to the uterus, it will relieve the symptoms like magic. Subacute and chronic catarrhal salpingitis is improved by an occasional resort to this treatment, and many cases, especially among the upper classes, who are not required to toil for their daily sustenance, go on for years escaping operation and feeling comparatively well. Cases of subacute and chronic cystitis are improved, and especially those cases due to the decomposition of residual urine in cystocele; first employing the single pessary-tampon, using care to avoid traumatism in the introduction, and as the treatment is tolerated using the crossed tampons. The bladder will thus be supported and be effectually drained at each micturition, and be relieved from any pressure or dragging of the uterus. This treatment is especially beneficial in the early months of pregnancy in multiparæ who are annoyed by frequent micturition or incontinence of urine. The single rectal condition I wish to mention is rectocele. Here the action is not unlike the truss in hernia, merely by pressure.

The contra-indications to the use of the pessary-tampon are acute pelvic inflammation, pelvic abscess during menstruation, and, in short, in any cases where there is danger of obstructing uterine drainage, or by traumatism of instruments or pessary tampons, of increasing a perimetritis. A distended rectum, acute cystitis, and acute vaginitis should be included under the same heading.

In conclusion, I wish to make a few comparisons between the pessary-tampon and the pessary. In the first place, as to the shape. With the pessary-tampon you have the simple, single cylinder, and have to judge merely of its size and length, while with the pessary you have a variety of complex shapes and sizes from which to make your selection, but even then the instrument often has to be remodelled to meet the requirements of the case. As the pessary is not antiseptic, and the pressure is often borne by a narrow rim, there is always danger from ulceration and sepsis, while with the pessary-tampon, which is antiseptic, the superincumbent weight is distributed over a larger area, and hence erosions, perimetritis, and fistulæ are not expected from its use. To derive benefit from a pessary it has to be worn for years, as it has so little curative action, while with the pessary-tampon a large per centage of cases are made well after a few weeks' treatment. As is well known, patients wearing a pessary are often negligent about returning for examination; they feel better and often do not present themselves for treatment until the damage is done, as occurred in the fistula case before mentioned. With the pessary-tampon the treatment is more exacting. Instructions are given to remove it at a given time, then to use certain douches, and to return for treatment upon a given day. With the pessary treatment patients are often told to remove the pessary to cleanse it, to take a douche, and to reinsert the pessary themselves, and to call for office treatment should they suffer much pain or have much discharge. The introduction of the pessary by the patient, of course, may or may not be faulty. With the pessary-tampons the applications are always made by the physician, and never by the patient, and as the return office visits are more regular and frequent it enables a closer observation of the case. Even should a patient wearing a pessary-tampon fail to return for treatment, there is but little danger of her neglecting to remove it, especially if she be married, as her conservative husband, who cares for the many family necessities would undoubtedly assist the patient in remembering the time for its removal, if not taking the responsibility himself of advising it. If unmarried, the unpleasant sensation from the watery flow and the string will serve as a reminder, so that the application will not be left in too long. In the use of a pessary to support a prolapsed ovary cases occur in which the ovary or tube has been injured by being caught behind the instrument. Such cases never occur in the use of the pessary-tampon. The simpler the instrument is in construction the more useful and safer it is. This general principle applies with peculiar force to the pessaries described, and the practitioner will not be surprised to find that this simple medicated roll of cotton holds a wider range of usefulness than the whole armamentarium of pessaries.

For the illustrations I am indebted to my friend Mr. Bert Wilder, an artist for *Harper's Weekly*.

157 Madison Avenue.

A Lizard in a Woman's Stomach.—A new version of a good old country tale is to hand from Cornwall. A woman, named Jane Rowe, residing at Marazion, had, we are told, for several years suffered from violent pains in the stomach, from which she was unable to obtain any relief, although continually under medical treatment. On a recent occasion, after taking some medicine, she had a severe attack of vomiting, in the course of which she threw up a living lizard, from four to five inches in length. Dr. J. Mudge, who has been the woman's medical attendant, has preserved the lizard, which he believes must have been in her stomach for many years. Since the reptile was ejected Mrs. Rowe has been almost entirely free from pain. All we can say is that if Dr. Mudge believes anything of the kind he ought to be sentenced to three months' hard study of natural history and old story books. We prefer, however, to charitably assume that this statement is merely an attempt to give a fictitious appearance of authenticity.—*Medical Press.*

A Grocer was lately prosecuted at Dijon for practising pharmacy illegally, and had to pay five hundred francs, and to advertise the conviction at his own expense in five of the most popular newspapers in the neighborhood.

PACHYMENINGITIS HÆMORRHAGICA INTERNA CHRONICA.[1]

Report of Case and Review of Pathology.

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Mr. President and Gentlemen: I invite your attention to the following report of a case, which is, both in its clinical and pathological aspects, of unusual interest. For the clinical history I am indebted to my associate, Dr. C. H. Wallace, whose close observation of the case greatly enhanced its scientific value:

L. W——, male, age at death sixty-three, white, married, farmer, a non-consumer of alcohol, excessive user of tobacco, no history of syphilis, was admitted in August, 1888, with a history of insanity of one year's duration. His mental alienation was first manifested by suicidal inclinations, and a tendency to wander away from home. Physical condition at time of admission was good. The patient ran the usual course of a case of chronic insanity, his mental condition steadily deteriorating until by December, 1890, he was classed as a case of terminal dementia.

January 10th he was observed to be unusually stupid and confused, complained of some headache, and vomited several times. As the patient was addicted to drinking the contents of spittoons, the latter symptom was attributed to that cause. After a brisk purgative this condition was in a measure relieved, but the patient was plainly more stupid and less active than before the attack. Between this date and June he had several similar attacks, which always left him in a worse mental condition. June 28, 1891, he was found, at the rising bell, to be in a condition of somnolence, from which he could be aroused only with great difficulty. He was unable to stand or walk, but when supported used all his limbs fairly well. By evening of the same day he was unable to perform any conscious movement, but would move all of his limbs when they were pricked with a pin. He now had a temperature of 102.5° F., pulse slow and full, pupils slightly contracted and very sluggish, breathing slow and labored, the patient groaning as if in pain. June 29th his condition was aggravated, breathing stertorous, face pale, and lips blue, pupils contracted, temperature 101.5° F.; he tossed about in bed and evacuated his bowels and bladder involuntarily. Coma became profound and he rapidly grew worse, and died July 1, 1891.

Autopsy, twenty hours after death.—Body poorly nourished, rigor mortis marked. No marks of violence were found, after a very careful examination of the head and scalp. The skull was large and symmetrical, and the external periosteum was normal. Calvarium was unusually thin and friable, its inner surface bearing the impression of numerous Pacchionian bodies, but it was of normal color and consistence. The calvarium was removed and detached from the dura mater without difficulty, exposing the external surface of that membrane, which was seen to be free from any evidences of disease. The longitudinal sinus was slit up and found free from thrombi. The dura mater was then incised over the right bregmatic region, where a bulging appearance and a sense of fluctuation pointed to an abnormal condition. The incision liberated about four ounces of dark, partly coagulated blood, leaving a well-defined cavity which had contained the hæmatoma, as the condition proved to be.

In order to observe this formation the dura was carefully removed and the following conditions were noted: The entire internal surface of the dura mater of the convexity, the falx cerebri, the falx and tentorium cerebelli, was lined with a neo-membrane of an average thickness of about one-fifteenth of an inch, and of a reddish-brown color, having the appearance of a recent extravasation of blood. A portion of this membrane was hardened in alcohol, vertical sections made, stained with hæmatoxylon, and mounted in balsam. Upon examination the membrane was found to consist (see Fig. 1) of a fine net-work of fibrils, which contained red blood-corpuscles, blood-coloring matter, and white corpuscles of various sizes

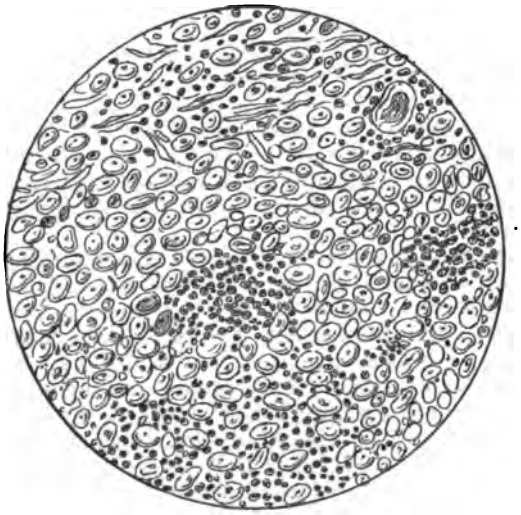

Fig. 1.—Vertical Section of False Membrane Attached to Dura Mater.

and shapes, many having become elongated to form spindle-cells.

The preponderance of leucocytes in various degrees of transformation, and the presence of red blood-corpuscles, in some instances disintegrated, and in others fairly normal in appearance, justifies the conclusion that this membrane is the result of a comparatively recent hemorrhage. The upper surface, as shown in the drawing, is evidently more highly organized than the lower, as it contains a newly formed vessel, and the spindle-cells can be seen arranging themselves into rows for the formation of connective tissue. This membrane, while attached to the dura mater, could be stripped off, and, with the following exceptions, left the internal surface of the dura intact and free from any evidences of inflammation. The exceptions were several small patches of adhesion between the dura and the false membrane, which carried thin, friable vessels of large calibre. At these points there was undoubtedly organic union between the two membranes. At all other portions of the dural surface, save at the site of the hæmatoma, was a second neo-membrane, much thinner than the first described, whitish in

Fig. 2.—False Membrane Attached to Pia Mater, and Forming the Limiting Membrane to the Hæmatoma.

appearance, reasonably dense in structure, and attached loosely to the pia arachnoid below and the reddish-brown membrane above. The thinnest part of this membrane was prepared for the microscope without cutting, and presented the appearance illustrated by Fig. 2. It will

[1] Read before the Mississippi Valley Medical Association, St. Louis, Mo., October 15, 1891.

be seen that this membrane has advanced to a higher stage of organization than the first examined. It is seen to carry a number of large blood-vessels, interlacing and anastomosing freely, and very irregular in size, shape, and direction. Several large vessels are seen with thicker walls, in which some fibrous tissue can be made out. These vessels evidently pass from the membrane to the dura above and the pia arachnoid below. The transformation of leucocytes has progressed, and cells of various sizes can be seen arranging themselves into chains and groups, forming a net-work of a new connective tissue. The red blood-corpuscles have disappeared, leaving here and there small deposits of blood-coloring matter.

The structure proves undoubtedly that this thin membrane, lying next to the pia arachnoid, was formed from the first extravasation of blood, which probably occurred as early as January, the date of the first attack of somnolence; it became organized, new vessels were formed, and another extravasation took place in June, which resulted in the partially organized membrane shown in Fig. 1. The fatal hæmatoma was without doubt derived from some of the new vessels which passed from the pia to the dura, supplying both false membranes.

At the points of adhesion between the dura mater and the first neo-membrane, the vessels passing from the dura

FIG. 3.—Vertical Section of Pia Mater, showing Dilated Vessel.

through the false membrane were traced into the second membrane and into the pia mater. A transverse section of one of these vessels showed it to be arterial in size, but capillary in structure. Its walls consisted mainly of the intima, with a very thin layer of imperfectly formed fibrous tissue.

At the site of the hæmatoma in the subdural space, in the right parietal region, the cavity into which the blood had been poured was found to have been formed between the first and second false membranes, the lower, thinner one forming the limiting membrane for the blood tumor. The cavity was about five inches long, three wide, and covered the frontal and parietal lobes.

The pia mater was next examined and found to be injected, thickened, and opaque, its vessels dilated and tortuous. At the anterior portion of the right frontal lobe the pia was deeply infiltrated, and extensive fibrino-purulent deposits were noticed. A section through the thickest portion, stained and mounted, exhibited characteristic changes (see Fig. 3). The cellular infiltration is marked, and considerable fibrous hyperplasia can be observed. The vessels present the most striking changes, their walls being thin and hyaline or infiltrated. All the vessels examined were dilated, pouched, and varicose. The peri-vascular lymph-spaces were crowded with leucocytes, some red corpuscles also being noticed. The brain as a whole was very much atrophied, weighing only thirty-nine ounces, the right hemisphere being perceptibly smaller from the pressure of the hæmatoma. On section the tissue was found to be firmer than normal, the gray matter very thin, the sulci shallow, and the puncta vasculosa prominent and oozing. The velum interpositum was thickened and injected, and the ependyma of the ventricles soft and granular. Further examination revealed nothing of importance. The condition, of which I consider this case a good type, has been described by writers as pachymeningitis interna hæmorrhagica, hæmatoma duræ matris, arachnoid cyst, etc.

As ordinarily treated of in text-books, the affection may be briefly described as follows: It consists in an effusion or extravasation of blood, by diapedesis or actual rupture of a vessel, into the subdural space. This blood, when the hemorrhage is not too rapid, becomes organized into a pseudo membrane, new vessels form, and their imperfect structure renders them prone to rupture, and leads to repeated hemorrhages and the formation of other false membranes. This process may be continued indefinitely, until as many as twenty false membranes are formed, the case terminating finally in death from a sudden and large hemorrhage. It has a decided preference for the male sex, and is also a disease of advanced life, the few cases reported as occurring in early life being due to traumatism or some grave general disease. It is found most often with psychoses of a chronic type, especially in general paresis, and alcoholic and senile dementia.

Remarkable as it may seem, yet this condition, so simple in its anatomical character, and so accessible to study, is the subject of great controversy as regards its pathology. Throwing aside all consideration of cases known to be due to traumatism, or to focal disease, we will turn our attention to those subdural hemorrhages associated generally with the formation of false membranes.

Houssard, a representative of the older school, held that the condition was primarily hemorrhagic, and that the new membranes were formed substantially of the fibrin of the extravasated blood. Kremiansky thought the hemorrhage was due to rupture of the middle meningeal artery, but this position was proven to be untenable, as a rupture of that vessel would form a hæmatoma between the dura mater and the bone. The views of Houssard met with general acceptance until Virchow published his investigations, in 1856, and in a measure caused a revolution of thought on the subject. His explanation was to the effect that there was a primary inflammation of the dura mater, which resulted in the formation of a thin vascular membrane, from which were derived the successive hemorrhages and the false membranes.

The majority of writers followed the teaching of Virchow thereafter, but a few dissented from his teaching, notably Sperling and Huguenin.[1] The latter, in an excellent article, takes the stand that the condition is primarily hemorrhagic and not inflammatory, thus returning to the old doctrine. He believes that the primary hemorrhage takes place from the veins which pass from the convexity of the brain to the longitudinal sinus, and possibly from the vessel of the Pacchionian bodies. He attaches great weight to the changes which take place in the blood-vessels and predispose them to rupture. Also that the brain atrophy renders rupture more probable. Of the most recent writers Clouston[2] describes the condition, saying, "This is the so-called pachymeningitis hæmorrhagica interna of the Germans, a ridiculous and misleading name, for it is not the result of inflammation at all. . . . It implies a very great intensity of morbid action in the convolutions, and probably also great and sudden changes in the blood-pressure within the cranium." Ross[3] gives the views of both Virchow and Huguenin without committing himself to either side of the question, though he has an evident leaning toward Virchow's theory. H. C. Wood[4] defines it as "a disease in which there is a chronic inflammation of the dura mater, with

[1] Ziemssen's Cyclopædia of Medicine, vol. xii., p. 386.
[2] Mental Diseases, p. 273. Edition of 1884.
[3] Diseases of Nervous System, vol ii., p. 693.
[4] Nervous Diseases and their Diagnosis, p. 406. 1887.

the formation of a bloody growth or tumor, due to, or connected with, repeated hemorrhages into the part." Eichorst[1] also defines the disease as "inflammatory changes of the inner surface of the dura mater," but goes on to describe the various theories, giving preference to that of primary extravasation.

F. C. Seguin[2] says: "The best statement to make about the disease, in our opinion, is that there are two forms of it, one very rare, in which hemorrhage from pia vessels occurs on the clot because organized; and a second, including by far the majority of non-traumatic cases, in which a true pachymeningitis interna occurs, followed by hemorrhage from the vascular channels in the young tissue, fresh inflammatory action, renewed hemorrhages," etc.

Gowers[3] states that the malady is very rare, "and is indeed of interest chiefly as a pathological curiosity and enigma, for it has been seldom even suspected during life," etc. In reference to its pathology, he adds, after giving the views of Virchow and Huguenin: "The question is undecided; provisionally, however, the disease may be kept in its place among the varieties of inflammation."

Delafield and Prudden[4] refer to it as an important form of chronic inflammation of the internal surface of the dura. Ziegler[5] follows Virchow, and describes the affection as a chronic inflammation of the internal surface of the dura mater. After the admirable article of Huguenin, referred to above, the contribution of Joseph Wiglesworth[6] is probably the most important. This writer gives the result of a study of forty-two cases of hæmatoma duræ, and in reference to the pathology concludes that the old theory, *i.e.*, of primary extravasation, is best supported by his experience. He says the condition is the result, not of pachymeningitis, but of an effusion of blood beneath the dura mater. "Such effusions are especially liable to occur in the insane, by reason of the loss of support sustained by the meningeal vessels, on account of the convolutional atrophy which is so marked a concomitant of insanity."

Sufficient authorities have been quoted, I think, to show how widely diverse are the opinions held. The first question which arises is whether the condition be an inflammatory affection of the internal dura mater, followed by a vascular exudate, subsequent hemorrhage, organization and the formation of false membranes; or whether the primary step is a hemorrhage, followed, as above, by organization and repeated hemorrhages.

The theory of Virchow, which presupposes an inflammation of the internal surface of the dura mater, has been, I think, satisfactorily disproven by the investigations of Huguenin, Sperling, Wiglesworth, and others. Sperling showed by experiments on rabbits that the injection of blood under the dura terminated, at the end of two or three weeks, in the formation of new membranes which were exactly like those found in pachymeningitis interna. He also found that the injection of irritants into the subdural space of animals was followed by purulent, but never by hemorrhagic, pachymeningitis. He also found that the injection of defibrinated blood was not followed by the formation of false membranes.

Wiglesworth found in one-sixth of his cases that there was fluid blood and clot in the subdural space, without the presence of any trace of false membranes on the under-surface of the dura. He very rightly concludes that if the hæmatoma can be formed without the presence of a membrane, there can be no necessity of calling in the aid of such a formation to account for the hemorrhages. But the decisive point is the microscopical examination of the internal surface of the dura mater in cases of hæmatoma. If the disease is an inflammation primarily, and if it is the cause of extensive extravasations and formations of layer after layer of neo-membranes, the microscope should show indubitable evidence of such conditions.

But here the advocates of inflammation fail to make a case. Virchow, to be sure, in some cases found slight evidences of inflammation, as well as the presence of a thin vascular membrane attached to the inner surface of the dura mater. But his conclusions were drawn from cases in which the process had advanced sufficiently far for the slight inflammation to be accounted for by the irritation caused by the adjacent extravasation. In addition to this, the inflammation is described by many writers, and our own case is corroborative, as occurring in patches, and at those points where organic union had taken place between the dura mater and the neo-membranes.

At other portions of the dura the internal surface, after

FIG. 4.—Vertical Section of Dura Mater, showing Hemorrhage into its Tissue.

stripping off the false membrane, was white and pearly. Sections of the dura mater made by Wiglesworth showed hemorrhages into its substance, and at the points of adhesion very slight evidences of inflammation, such as small accumulations of leucocytes and abnormally distinct nuclei of the fibrous bundles. In the case which I have just reported I prepared a number of sections of the dura, finding, as illustrated in Fig. 4, little more than hemorrhage into the substance of the membrane, or between its lamellæ. In the report from the State Hospital at Norristown, Pa., Dr. F. X. Dercum, the able pathologist of that institution, gives the result of a series of investigations carried on by him, he also finding hemorrhages into the dura, but no evidences of inflammatory processes.

From the study of the dura mater in a considerable number of cases of general paresis of the insane and chronic insanity, together with a minute examination of the membranes in this case, and upon the authority of Huguenin, Sperling, Wiglesworth, Dercum, and many others, I am led to believe that inflammation of the dura mater is not the primary lesion. Denying inflammation as a cause, we are left to accept the doctrine of primary extravasation. Assuming that the grounds for this belief have been made sufficiently plain, we are then confronted with the most difficult problem of all: From whence does the blood in the primary extravasation come, and what are the conditions which bring it about? Its frequent association with alcoholic and terminal dementia, senile insanity, and especially general paresis—Baillarger observed the formation in one-eighth of his cases of paresis, and Wiglesworth in twenty per cent. of his—certainly should direct our attention to the characteristic changes observed in the membranes, vessels, and cortex of those dying with such diseases.

The pathological changes in the tissues mentioned

[1] Handbook of Practical Medicine, vol. iii., p. 233.
[2] Annual of Universal Medical Sciences, vol. ii. 1889.
[3] Diseases of Nervous System, p. 721. Am. ed. of 1888.
[4] Pathological Anatomy and Histology, p. 159. 1885.
[5] A Text-book of Patholog and Pathogenesis, p. 1025. Am. ed. of 1887.
[6] Journal of Mental Sciences, January, 1888.

may be briefly summarized as follows: An atrophy of the brain as a whole or in part, degeneration of the ganglionic cells and neuroglia of so pronounced a character as to lead Clouston to speak of general paresis as "essentially a death of that tissue, and equivalent to a premature and sudden senile condition, senility being the slow physiological process of ending, general paralysis the quick physiological one."

The vascular changes are as important as constant, the vessels of the pia and cortex being tortuous, looped, varicose, their walls thinned, and the peri-vascular lymph-spaces dilated. All writers appreciate the great vaso-motor disturbances that are manifested clinically and post mortem, and Spitzka places so much weight on these changes as to define general paresis as "a progressive deterioration of the central nervous system, chiefly affecting the brain, and the result of a chronic inflammatory process of an angio-paralytic nature, whose essential element, the vaso-motor weakening, is due to over-strain of the encephalic vaso-motor centre," etc.

The membranes of the brain, especially the pia mater, are almost constantly changed, being injected, infiltrated, thickened, and opaque, the vessels giving ocular evidences of their inability to bear the strain put upon them. Leaving the pathological anatomy with this cursory notice, we will consider the relation between these morbid conditions and the subject of this paper. Huguenin argues that atrophy of the brain is an important factor in the production of the hæmatoma, and substantiates his claim by the fact that the greater number of reported cases have occurred in cases in which atrophy was found. He also gives due prominence to the part played by general diseases and grave alterations of the blood.

Wiglesworth follows Huguenin in placing atrophy of the brain, and the consequent loss of support sustained by the meningeal vessels, as a prominent factor in the causation of hæmatoma. He believes that convolutional atrophy favors passive congestion of the vessels, and that they may suffer actual rupture or allow blood to escape by diapedesis. He, however, leaves the exact source of the hemorrhage rather indefinite, and, I think, generalizes too much. Dercum, in the article referred to above, takes a position in advance of Wiglesworth, placing the responsibility of the lesion on vaso-motor disturbances. He very correctly observes an analogy between hæmatoma of the dura mater and othæmatoma, attributing both to neuro-angio paralysis.

In this position he is ably supported by Spitzka, who, as we have just seen, looks to this vascular disturbance for the cause of this trouble as well as of general paresis.

The strongest evidence in favor of the causative influences of vaso-motor changes is the fact that hæmatoma is found in those psychoses in which we have clinical and post-mortem evidences of serious trophic changes. We have abundant proof of grave degenerations of all tissues, brought about as a result of tropho-neuroses, and hæmatoma duræ is as likely to be caused by these conditions as mollities ossium, othæmatoma, acute decubitus, etc.

There seems to be a general agreement on the part of writers that the primary hemorrhage occurs by diapedesis, or rupture of some of the vessels of the dura mater. Even those who deny the theory of inflammation of the dura still look to the membrane as the source of the primary hemorrhage. Dercum, Seguin, and Spitzka mention the possibility of hemorrhage from the pia mater, but place no great stress upon it. In fact Dercum argues, in support of his theory of rupture of some vessel of the dura, that those which supply dense tissues have, as a rule, thin walls, and for this reason are more prone to rupture when weakened by the withdrawal of vaso-motor tonus. It is a histological fact, however, that the dura mater is composed of two layers, both made up of connective-tissue bundles and elastic fibres; and that the outer layer is the vascular portion of the membrane, supplying the bone above and the internal layer below with blood-vessels. Further, the lower layer has few vessels, and these are very small.

Admitting that the vessels are thin-walled, are they not so because of the support afforded by the dense tissue in which they ramify, and does not this same tissue, which is sufficiently strong to form the great venous sinuses, compensate for the lack of thicker walls? It seems to me that it does, and that these vessels are not as liable to rupture and throw their contents into the subdural space as the thin-walled vessels of the frail pia mater. It therefore appears illogical to look to the dense dura mater for the hemorrhage, and ignore the membrane below, which is composed merely of blood-vessels, lymph-spaces, nerves, and a light trabecula of connective tissue. Especially irrational does it seem when we remember that the pia is so constantly diseased and presents such marked vascular degenerations in the class of cases which furnish the greater number of hæmatomæ.

In conclusion, I wish to suggest the following deductions, offering them as a practical and rational view of the subject:

1. That the disease known as "pachymeningitis hæmorrhagica interna chronica" is not a disease of the dura mater primarily, and not necessarily at all. The name is therefore a misnomer, and the simpler term, "subdural hæmatoma," should be substituted.

2. That the condition is due primarily to a paralysis or loss of the normal vaso-motor tonus, associated with structural changes in the cerebral vessels, particularly those of the pia mater.

3. That hemorrhage may, and often does, take place in the substance of the dura from the causes stated, but that its vascular supply and anatomical structure render it improbable that these hemorrhages play any part in the formation of subdural hæmatoma.

4. That the hemorrhage occurs from the vessels of the pia mater primarily, forces its way without difficulty through the upper cobweb like layer formerly called the arachnoid, escaping into the subdural space. The extravasated blood becomes organized, new vessels are formed, and these assist in furnishing the recurring hemorrhages.

5. That the inflammation of the internal surface of the dura mater is secondary and due to the irritation of the extravasation, and then is not general, but occurs only in patches where organic union has taken place.

Scarification of the Os Uteri in Chlorosis.—Dr. J. Cheron recommends scarification of the os uteri in chlorosis, and points out that this treatment has been highly spoken of by Schubert and others. The amount of blood to be drawn is about one gramme to every kilogramme of body weight. According to the above observers these slight bleedings greatly increase the number of red corpuscles and the amount of hæmoglobin in the blood. Dr. Cheron, in making use of scarification of the os in the treatment of old-standing disease in chlorotic patients, found that the general health as well as the local conditions improved. In many cases an analysis of the blood during and after treatment showed continuous improvement after each scarification. In chlorotic patients congestion of the womb is habitual, and it is easy to obtain forty to sixty grammes of blood at one operation. This local treatment seems likely to be of great benefit to chlorotic women, and it is easy to understand that it would be performed much more readily than venesection. The scarification, if done with antiseptic precautions, is not accompanied by risk.—*The Lancet*, March 5, 1892.

Horse, Donkey, and Mule Meat.—The *British Medical Journal* says that during 1891 the people of Paris consumed 21,291 horses, 229 donkeys, and 40 mules—the meat weighing 4,615 tons. It was sold in the shops at from 2d. to 10d. per pound. Only one-third was sold fresh and undisguised, the rest being made into sausages.

PATHOGNOMONIC SIGNS OF PERFORATING APPENDICITIS.

By SIMON BARUCH, M.D.,

NEW YORK.

At the last meeting of the Academy of Medicine this subject received the most practical discussion ever given it in this city.

The lateness of the hour prevented the writer from offering the views herein set forth.

The consensus of opinion seemed to be that most cases of appendicitis should be under the combined care of physician and surgeon. Unfortunately medicinal treatment is too often relied upon until distinct evidences of diffused peritonitis are present, when the surgeon's knife is too late. That many lives have thus been sacrificed is generally admitted.

I have treated quite a number of cases of probable appendicitis without surgical interference. Two of these were recurrent attacks in colleagues, Dr. B——, who was seen also by Drs. Sands, Hackley, and Morris J. Asch, and Dr. W——, who was seen by Dr. Coe. Both recovered after prolonged and continuous use of a wet compress over the right iliac region. Such cases, as well as those which form well-limited abscesses, are not within the purview of this article.

I desire to aid in removing the most active lethal factor in this affection, viz., those cases of perforating (I would call them traumatic) appendicitis which destroy the patient's life within a few days. Of these I have treated five, one in 1881, which was seen also by Dr. Delafield, died in three days in collapse; one in 1883, seen also by Dr. A. Jacobi, died in two days, and one in 1884, which was seen also by Drs. Loomis and Weber, died in six days. These were treated by the opiate plan (Dr. Weber proposed an operation on one, which was not done on account of the advanced stage) and determined me to pursue a different course in future.

On December 29, 1889, at 8 A.M., I saw G. W——, who had suffered pain in abdomen all night and had vomited. He had exquisite pain in right inguinal region; pulse, 120; temperature, 102.4° F.; respiration, 36. Fomentations, enemas, followed by ⅛ grain morphia were ordered. Food and drink withheld. The parents were informed at once of the seriousness of the case and the probability of an operation. On the following morning the temperature was 101.6° F.; pulse, 130; respiration, 30. Tympanites, dulness over appendix; morphine had not been required; pain exquisite only on pressure. Although the general condition was improved I asked for surgical consultation. Drs. Sands and Bull agreed with me on the necessity for operation; this was done by Dr. Sands, Dr. Hartly and myself assisting. A fecal concretion was found just within the grasp of a slit perforation in the appendix; some fecal matter and pus in peritoneum. The edges of the slit were pared and stitched, wound cleansed and packed. Patient made an excellent recovery. Dr. Sands reported this case in full,[1] and regarded it as the earliest operation then on record. Temperature, pulse, and respiration fell within three hours of operation, and improvement was steady from that moment.

Symptoms of shock—cool finger-tips, anxious countenance, and exquisite tenderness—made my diagnosis positive, despite the apparent general improvement on the second day.

The next case, in which these symptoms were absent, may prove interesting also. Miss —— suffered severe pains in inguinal region—menstruation was due. Dr. R——, who was living near her, was hurriedly called in the afternoon and again on the next morning, and stated to me that he found her in collapsed condition and suggested perforating appendicitis. Although she was better when I saw her, and I could discover no evidence of so serious a trouble, I sent for surgical counsel on the strength of this statement of my able colleague. The eminent surgeon pronounced the case undoubtedly one of perforating appendicitis and advised immediate operation.

The symptoms which I regard as pathognomonic o perforation, viz., cool extremities, anxious countenance, pulse and respiration accelerated out of proportion to temperature, and exquisite tenderness being absent, further counsel was suggested. The latter not being obtainable without a delay of several hours, the attending surgeon urged an operation before dark. Patient was etherized and everything prepared, Dr. W. T. Alexander and Dr. O'Neill being present. A vaginal examination satisfied the surgeon that he was in error. The operation was not done. The patient was seen later by Dr. Bull and Dr. Thomas, who approved this course. She recovered and has had no recurrences. Menstruation appeared two days later.

My last case, briefly told, is that of Mrs. R——, who was detained at a summer resort in October, 1891. I was called down by telephone and found that she had been attended for twenty-four hours by a justly eminent city practitioner, being treated for peritonitis by Rochelle salts and morphia. Being compelled to go to Washington, the case was transferred to me, with his consent. Cool finger-tips, anxious countenance, rapid pulse and respiration, with a temperature of 100° F. only. Exquisite tenderness and some dulness in the right iliac region convinced me that this was a case of perforating appendicitis, and led me to urge sending for a surgeon to the city. The latter could not be obtained until after the last regular train had departed. So pathognomonic did I regard the signs present, however, that I insisted upon the friends obtaining a special train without delay (not having instruments and antiseptics myself).

Dr. John A. Wyeth came down on a special engine at 11 P.M. I had in the meantime made the parlor as surgically clean as possible, and gotten everything in readiness for an operation; which was promptly agreed to and done by Dr. Wyeth. The peritoneum was opened, and digital examination for adhesions caused a gush of pus. An elongated nodular and inflamed appendix was found, containing a fecal concretion, whose sharp edge had perforated the appendix. Recent fibrinous exudation and pus mixed with bubbles of fetid gas were found in the vicinity. Dr. Wyeth peeled the appendix off carefully, tied and removed it; washed, drained, and packed the wound. Pulse, respiration, and temperature fell within an hour, all symptoms of shock passed away, and the patient made a good recovery.

What is the lesson to be derived from these carefully observed briefly stated cases?

Symptoms of shock, carefully looked for, may always be found in perforating appendicitis. To recapitulate these—the countenance is anxious, the finger-tips, nose, and ears are cool; pulse and respiration are out of proportion to temperature, the right inguinal region is very tender, the patient usually lies with the right leg drawn up. That these are pathognomonic signs my cases prove. Guided by them I opposed the view of an experienced physician in one case, insisting upon the operation; and in another did not approve the operation advised by an experienced surgeon. In both cases my reliance on these pathognomonic signs proved useful to the patient.

The lesson of these cases, which are fortified by frequent reports of similar ones in our societies, is that when perforating appendicitis is diagnosed, either positively or probably, an immediate operation to remove the exciting cause is as imperative as ligation of the vessel is in hemorrhage.

The fact that laparotomies are now constantly performed, under strict asepsis, with absolute safety, should induce the attendant to clear up a doubtful diagnosis of perforating appendicitis by an operation before septic peritonitis forbids it.

Careful reading of this paper will, I trust, indicate that I do not approve an operation in every case of so-called typhlitis or perityphlitis.

[1] New York Medical Journal.

FAVUS AND ITS TREATMENT—RESULTS IN ONE HUNDRED AND THIRTY-NINE CASES.

By SHELDON GUTHRIE EVANS, M.D.,
U. S. NAVY.

THOUGH favus or tinea favosa is an exceedingly rare disease in our own country, it is by no means uncommon in Scotland; and in Germany, where it is known as Wachsgrind, it is of frequent occurrence. I have been fortunate—or unfortunate—enough, within the past few months, to have been brought in close professional contact with one hundred and thirty-nine patients suffering from this disease, all of whom were under the general supervision of Surgeon Abel F. Price, U. S. Navy, the senior medical officer of the ship, and to whom I am indebted for the treatment about to be described. A report of these cases and the method of treatment employed may be of interest to the readers of the MEDICAL RECORD. With very few exceptions all the cases aboard ship occurred among the apprentice boys, and did not generally extend to the men.

Favus usually attacks the hairy scalp, and in the cases that came under my care all were of this character; and it may be well to state, *en passant*, that it appears to be more severe with those who have light colored hair than with those possessed of locks of a darker hue. It is a contagious parasitic disease, and Schönlein, who was the first to demonstrate that the straw-colored crusts found in the disease, formerly known as porrigo favosa or tinea lupinosa, and which were regarded as the products of inflammation, really consisted of a mass of fungi (achorion Schönleinii).

Microscopically examined, the favi, as the yellowish crusts are called, are found to be made up entirely of the fungus, consisting of "an oval nucleated conidia one thirty-five-hundredths of an inch in diameter; free, jointed or constricted; large, branching, or tortuous mycelial filaments one eight-thousandth of an inch in diameter, filled with granules and spores, and a stroma made up of cellular elements" (Quain).

Hofmann, who has cultivated the fungus, claims that it is identical with the mucor racemosus, but other authorities do not corroborate his views.

Lack of cleanliness seems to be the only predisposing cause of the disease, and dirt a most favorable nidus for the development of the fungi when once implanted. This is, however, by no means true of the cases aboard ship, where the strictest hygienic regulations prevail, and thorough cleanliness, both of person and quarters, is rigidly enforced. The origin of the disease on the ship has been traced to an apprentice boy from Germany, who, when sent to the ship, was evidently suffering from the disease, though it had not fairly manifested itself. From him it appears to have spread to others, mainly through the utensils of the ship's barber, and perhaps, by changing watch-caps, a practice prevalent among the apprentices. As soon as the first case was detected the crew were at once inspected and other cases found.

The disease is characterized by the development of sulphur-colored crusts or scales known as favi. In its first stages we find the affected part studded with fine yellow bodies embedded in the skin. These spots or bodies are, at first, about the size of a pin-head, and each body perforated with a hair. Subsequently they coalesce and the scalp is covered with a thick mass of dirty yellowish scales, having a peculiar pungent and characteristic odor. On removal of the scales we find the scalp reddened, inflamed, and depressed. As the hair follicle becomes overgrown with the fungus, the growth of the hair is impeded, and it soon dries up and drops out. It is not generally reproduced.

Favus is often accompanied by lice, but in none of our cases were these pests found. By a casual observer the disease may be mistaken for impetigo, but on close examination the favi are easily recognized, and the odor is strikingly characteristic.

All writers on the subject say that the treatment is tedious and unsatisfactory, but it gives me pleasure to set forth the method suggested by Surgeon Price, which I have been unable to find in any works now at my disposal, and which treatment has given complete satisfaction. The hair of every patient was, of course, cropped short and kept so during treatment. A solution of bichloride of mercury in alcohol—one to five hundred—was prepared, two stiff brushes provided, and the heads of all the patients were thoroughly scrubbed with the solution every other day for a week or ten days, within which period all the scales were removed, leaving only a yellowish stain upon the scalp. Then a solution of the same strength was prepared with water and glycerine, and the patient's head was bathed therewith twice a week.

Under this treatment all the cases rapidly improved, many have been entirely cured, and none have developed a second attack. If the scalp is very much inflamed and tumefied, a mild sulphur, mercurial, or oxide of zinc ointment will quickly relieve it.

The old treatment, with poultices, etc., would certainly have been tedious, especially with such a number of patients. Should any of the readers of the MEDICAL RECORD meet with any cases and employ the mercuric chloride treatment, I should be pleased to hear the results.

Progress of Medical Science.

Neuroses of the Prostate.—Dr. Peyer distinguishes three varieties of neuroses of the prostate: 1. A hyperæsthesia of the entire organ; 2, an excessive hyperæsthesia of the pars prostatica urethræ, and 3, the nervous irritability of the muscular portion of the gland, which forms the shut-off muscle of the bladder. The first variety is the most unusual; the second is somewhat more frequent, and the third is the best known. In hyperæsthesia the symptoms consist in an almost constant feeling of irritation in the prostate which often increases to a severe pain. At stool a sexual sensation is often experienced which makes itself felt at the same time in other parts, as for instance the palm or sole of the foot. Any decided pleasurable sensation especially finds an echo in the prostate. Sleep is difficult and not restful; muscular fatigue is quickly produced; there is often congestion about the head and palpitation of the heart. In hyperæsthesia of the prostatic portion of the urethra, which is usually described under the name of neuralgia of the neck of the bladder, the conditions are different. In the rule this hyperæsthesia is not only a symptom of a general neurasthenia, but it is caused by a chronic condition of irritation of the mucous membrane of the prostatic portion, and belongs to the causative conditions of the existing neurasthenia. It is characteristic of this form that the sensitiveness of the nerves to the application of the sound is much greater than in ordinary cases, and that this sensitiveness does not diminish or become blunted by frequent passage of instruments. The third form—the nervous irritability of the muscular elements of the prostate—manifests itself as a rule by a slight cramp of the shut-off muscle, quickly passing away. These patients cannot pass water in the presence of others, nor in the steam-cars, and often not at night when tired out or overcome by drowsiness. In a certain number the cramp of the sphincter is a chronic condition, and they can simply never pass their urine at once when they feel called upon to do it. It is always necessary to aid in the act by standing quiet for a time, putting their attention on something else, and avoiding all effort or strain. Others secure the desired result in gently making traction on the urethra until the spasm relaxes. The stream begins slowly, at first only a few drops, and gradually gathers strength. According to Civiale frequent masturbation or too frequent coitus has preceded the affection. According to Ultzmann such a condition may become

localized after a gonorrhœa, as well as a result of onanism. If due to the first, gonorrhœal heads will be found; if to the second cause, the prostatic portion will be very sensitive on passing the sound, and will bleed readily. If general neurasthenia is present, a course of treatment to strengthen the whole nervous system is required. If evident local causes are present, application of the sound once a week, remaining quietly in the canal for twenty or thirty minutes, will be of benefit. Local treatment plays the principal part in hyperæsthesia of the prostatic portion of the urethra. After the sound instillations of nitrate of silver often act very beneficially. In all cases regulation of the bowels and of the sexual life is most important. Long walks and horseback riding are to be forbidden. Strong wines, coffee, and tea are to be avoided. Bath and water cures often give good results, but the author has never seen any benefit from electricity.—*Internationale klin. Rundsch.*, January 24, 1892.

Prostatectomy.—Dr. Tobin (*Medical Press and Circular*, December 2, 1891) has successfully practised an operation for senile prostatic enlargement, which consists in first making a small suprapubic incision. A wire doubled and suitably curved is then passed through the urethra into the bladder. A straight sound arranged to receive the wire is then passed till it impinges against the urethral obstruction. The wire loop lying in the bladder is then slipped over the enlarged lobe by means of one or two fingers passed through the suprapubic opening, and while held in place traction is made until it cuts its way through, aided by the counter-pressure of the sound. The following advantages are claimed for this method: 1. As much of the gland as interferes with the escape of urine is removed, and no more. 2. Such portion of it is removed in a satisfactory manner, for the wire starts from the point where the finger defines the obstruction on one side, and cuts up to the point where the instrument does so on the other. 3. A smooth surface, sloping into the urethra, is left, instead of the more or less rough one, that must result from taking away the gland piecemeal with a forceps. 4. There is very little hemorrhage. No brilliant results are to be expected from any operation, and one should be undertaken only as a last resource. When dealing with youth we may talk of a cure; when treating the aged we may consider ourselves lucky if we succeed in making them a little better.

Ephedra Vulgaris is the name of a plant which has long had a reputation among the Russian peasants as an anti-syphilitic and anti-rheumatic remedy. Dr. Betchine has recently found that there are just reasons for this, so far as acute articular and muscular rheumatism are concerned. Temperature is reduced, pain relieved, and pulse and respiration lowered, in from one to two days, after dessert-spoonful doses, at two-hour intervals, of a decoction made with a gramme of the powdered root and bark for every five grammes of water.—*Edinburgh Medical Journal*, March, 1892.

The Scarlatinal Bubo.—Drs. Combemale and Lamy have found in a case of cervical adenitis, of scarlatinal origin, going on to suppuration, that the pus, while entering such micro-organisms as streptococci and staphylococci, is not virulent. The microbes appear dead, or are at least deprived of the power of reproduction on nutrient media. Their observations lead them to believe that these microbian agents act more through their toxines, which call forth an abundance of leucocytes.—*Bulletin Méd. du Nord*, January 8, 1892.

Antipyrin in Whooping-Cough.—Dr. Feer (*Medical Press*, January 13, 1892) has recently treated about eighty cases of pertussis with antipyrin, as many decigrammes being given morning and evening as the child was years of age. The beneficial effect was established in four-fifths of the cases. It is not known whether it acts as a germicide or as a sedative, but the balance of evidence inclines to the latter hypothesis.

Therapeutic Hints.

Acute Œdema of the Lungs.—Dr. A. A. Smith has found a most successful combination for the treatment of acute œdema of the lungs to be—strychnine $\frac{1}{60}$ grain and atropine $\frac{1}{100}$ grain hypodermically, and $\frac{1}{100}$ grain nitro-glycerine by the mouth at the same time. The strychnine and nitro-glycerine to be repeated every two hours till relief is afforded.

Ulcerated Chilblains.—Dr. Brogg recommends for ulcerated chilblains:

℞. Acid. carbol. ..... ♏ xv.
Ung. plumbi. ..... ʒ v.
Lanolini. ..... ʒ v.
Ol. amyg. dulc. ..... ʒ ss.
Ol. lavand. ..... gtt. xx.
M. S.: Apply two or three times daily.

Diuretic Action of Diuretin.—Dr. Hoffmann says the diuretic action of diuretin is due to the influence of the drug upon the epithelium of the kidney. He finds that in daily quantity of five grammes it produces no ill effect. It acts where digitalis, strophanthus, and caffeine fail. Cumulative effects have not been noticed, nor does the system appear to become accustomed to its use so that it ceases to produce desired results. Other substances destined to influence the kidneys or heart can be administered at the same time.—*Archiv f. Exp. Path. u. Phar.*, xxviii.

Treatment of Chronic Papillomatous Urethritis.—Dr. Lauz recommends the trichloracetic acid as a caustic in the treatment of chronic papillomatous urethritis, instillations of the following solution being made:

℞. Aq. destill. ..... 100 grammes.
Ac. trichloracet. ..... 20 grammes.

Eczema.—Dr. Hardy considers internal treatment of the greatest importance in eczema after the acute stage is passed, and arsenic as the most important remedy. He gives the arseniate of soda in one tenth of a grain dose, once daily. Dr. Brocq thinks internal treatment of importance in eczema, and prescribes in strumous cases cod-liver oil or a sirup containing iodine; in rheumatics, alkaline waters; in gouty subjects, colchicum, digitalis, etc. For eczema capitis the following local application is advised:

℞. Naphthol,
Camphor,
Resorcin ..... ää gr. x.
Sulphur. ..... ʒ j.
Vaseline. ..... ʒ j.

For Pruritus Vulvæ.—Dr. Kholmogoroff cured a case of severe pruritus vulvæ by six applications of galvanism of ten to fifteen minutes' duration, and ten to fifteen milliampères strength of current. The positive electrode, insulated to its distal tip, was introduced four or five centimetres within the vagina, while the cathode, covered with chamois and moistened with a salt solution, is applied over the affected area.

Care of the Teeth in Diabetes.—Dr. Dujardin-Beaumetz says diabetics should care for their teeth and gums with the utmost attention. The following formula for a dentifrice has given him the best results. It is to be diluted one-half at time of using, and should be used twice daily:

℞. Acid. boric ..... 25 grammes.
Acid. phenic. ..... 1 gramme.
Thymol. ..... 0.25 centigramme.
Aquæ. ..... 1 litre.

To this is to be added:

℞. Essence menth. ..... gtt. x.
Tinct. anisi. ..... 10 grammes.
Cochineal. ..... q.s. to color.
Alcohol. ..... 100 grammes.

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EXOPHTHALMIC GOITRE.

BASEDOW'S disease, standing upon its symptomatic tripod of exophthalmos, palpitation, and goitre, has always been an interesting study, not more on account of its widely separated and at the same time intimately associated manifestations, than because of the many features of the disease which were puzzling, and the difficulty of securing favorable results in many cases from known plans of treatment.

There are a few points in the recent literature of goitre, and especially the exophthalmic form, to which attention may profitably be directed.

The pathology of this disease has never been satisfactorily settled, but there has been a decided tendency of late to look for some other explanation than that of disordered sympathetics. White has shown that, while the cells of the cervical sympathetic ganglia are found shrivelled up in exophthalmic goitre, they may also be found in this same condition in health, so that no importance can be attached to this condition in what he regards as degenerated and useless organs.

Dr. Pershing, writing on this subject in the *Denver Medical Times*, March, 1892, regards as more satisfactory the theory which refers the symptoms to disease of the vaso-motor and heart-centres in the medulla. "Most of the symptoms," he says, "such as low blood-tension, throbbing arteries, flushing, sweating, protrusion of the eyes, and swelling of the thyroid gland, may well be attributed to vaso-motor paralysis." But the other symptoms, such as rapid pulse, tremor, and occasional paralysis, show, the author thinks, that "the disease is not limited to one centre or to the medulla, but has caused a wide-spread disturbance of innervation." Tremor was a conspicuous feature of the case reported, and this is a symptom which, according to Kahler, is very constantly present. It is distinguished from other tremors by its rapid rate, its regularity, and its small amplitude. While in paralysis agitans and senile tremor the rate is four to six vibrations per second, here it averages eight and a half.

Dr. Sallier has reported an instance of myxœdema complicating Basedow's disease, and a second of œdema. In both cases there was no doubt in the mind of the writer that the mucous œdema was intimately connected with the disease of Basedow.

Unfortunately, little is known concerning the functions of the thyroid gland or body, but it would appear that several affections depend in a great measure upon the integrity and ability of the organ to do its work, whatever it may be. In exophthalmic goitre it is enlarged, often very greatly. In myxœdema the other symptoms would seem to depend in a great measure upon the atrophy of the thyroid, while in cachexia strumipriva the condition follows removal of the goitre tumor by operation.

Moebius thinks the latter condition, as well as myxœdema, are due to suppression of the functions of the thyroid, and Gauthier almost admits the same for exophthalmic goitre, at least so far as concerns a large part of its manifestations. As regards the prevention of cachexia strumipriva, it would seem that the operation known as the Mukulicz resection, by which most of the lateral lobe is taken away, while the recurrent laryngeal nerve is spared, presents the most attractions. In this procedure the portion of the gland-tissue lying next the nerve, which is left behind, appears to be sufficient to ward off the cachexia, so that in 550 partial thyroidectomies done by Berry (*British Medical Journal*, June 13, 1891), only six showed symptoms of cachexia strumipriva, which is usually considered the most important remote effect of thyroidectomy.

In opposition to partial extirpation, Stoker says it is a dangerous operation, exposing to severe hemorrhages, even in simple cases; and because of the danger of myxœdema following it, total extirpation is only justifiable if a portion of the gland is transplanted into another region of the body. If one-half of the gland is removed, the other half atrophies.

Boinet and Gilbert have just reported, in the *Revue de Médecine*, No. 1, 1892, a series of experiments upon the ptomaïnes in the urine of exophthalmic goitre patients; the conclusions drawn from which seem worthy of note.

Three ptomaïnes were extracted from the urine of a woman having exophthalmic goitre associated with motor and cardiac troubles. These ptomaïnes produced upon animals phenomena at times analogous to those observed in the patient. They acted upon the heart, upon movement and sensibility, and upon the temperature. The plain active principle which exists in the products of evaporation of the urine has convulsive properties. Weak doses injected into the veins of a rabbit's ear produced death almost instantaneously. Subcutaneously injected in a frog, this same substance causes slowing and diminished energy of the heart-beats, dilatation of the ventricle, and arrest of the heart in diastole. Each ptomaïne appears to possess peculiar properties, for an account of which we must refer to the original report.

Very little bearing upon therapeutics is to be found in recent writing upon this subject, and until something more is learned about the physiology of the thyroid, and the pathology of the conditions in which it is implicated, little in the manner of rational treatment can be looked for.

We would, however, again call attention to Dr. Fergusson's recommendation of strophanthus, which was published in the RECORD of April 16th, as a means at least of relieving the cardiac symptoms.

Dr. Eloy praises hydrotherapy as a means of diminishing nervous excitability and tachycardia, and insists upon electricity. He also administers arsenic and bromides

alternately, and considers hygiene very important. Dr. Vigoroux (*Gazette aes Hôpitaux*, December 1, 1891) recommends negative faradization of the carotids, the goitre, and the eyes, and positive of the precordial region. After fifteen years of this plan of treatment at the Salpêtrière, carried out in about a hundred cases, it is said that improvement is almost always prompt, and complete disappearance of the symptoms takes place if treatment is persisted in for a sufficient length of time.

The most recent contribution to the pathological anatomy is that made by Mendel in the *Deutsche Med. Wochenschrift*, No. 5, 1892. The few published autopsies which this author has been able to find show the most varied results, from which no safe deductions can be drawn, but it is worthy of note that the sympathetic system was usually found in a normal condition.

MEDICAL PRACTICE IN AUSTRALIA.

A DAILY paper of Sydney, New South Wales, has lately published a series of articles on the "overcrowding" of the profession in that colony. The title of the papers would seem to be somewhat misleading, since the profession in that favored spot is shown to be anything but overcrowded. It is said that there are in New South Wales about six hundred qualified practitioners to a population of 1,134,207, or 1 medical man to 1,890 persons. The incomes with which these lucky men are credited are such as might make their less favored brethren in other parts of the world envious. Several leading practitioners in Sydney are stated to have an income of $30,000 a year; the average income of the rank and file of the profession being from $5,000 to $10,000. *The Lancet*, however, whence we quote these figures, is very sceptical on these calculations, and thinks that the not infrequent breaches of professional manners and methods in that country point to the existence of a much greater pressure of competition than these statistics would lead one to believe.

THE COMMERCIAL ASPECT OF MEDICAL LITERATURE.

OUR contemporary *The Lancet* quotes from a leading article in *The Author*, the official organ of the Incorporated Society of Authors, conducted by Mr. Walter Besant, according to which medical literature rarely brings any direct profit to the author. The writer divides medical books into—1, works of general medical reference; 2, books written in one of a popular series, and 3, monographs on special subjects. The first and second classes may indeed be financial successes; books of the first class often commanding a large sale, while those written as parts of a series pay the author by bringing in some money and some reputation. The good books of a series sell the bad ones, and the popular prices suit the purses of a great many people. The actual amount of remuneration received by the author is indeed usually small; but the work is undertaken, according to the writer, partly with a view to fame, and partly, perhaps, for the sake of not being crowded out of the field by some other person equally fitted for the task. But for the author of books written on special subjects, and not forming one of a series, there is seldom, if ever, any direct pecuniary reward. The circulation of such works is necessarily very limited, and they are often gotten up in a style that calls for a large outlay in the way of colored plates, etc., which would eat up the possible profits of a much larger sale than could ever be attained. The reward is, however, indirect, and is supposed to come in the form of increased consultation practice, reputation, college appointments, and "legitimate notoriety, with its substantial results." *The Lancet* expresses strong doubts as to the substantiality of these results, for, it says, "the laws which govern the growth of fame and of practice are so subtle that they elude definition," yet "their uncertainty has to be faced by all who feel tempted to try the effects of an investment on commission."

THE CASE OF MRS. OSBORNE.

IT is announced by cable from London that the Home Secretary has decided to release Mrs. Osborne, recently sentenced to a term of imprisonment at hard labor, before her accouchement, so that her child may not suffer through life under the stigma of having been born in prison. This is a tardy measure of mercy, for, if the testimony of the lady's previous medical attendants and of those acquainted with her present condition is to be accepted, the woman ought never to have been incarcerated—at least in a common jail.

The *British Medical Journal* has made inquiries of various medical men, and learns from them that Mrs. Osborne has been repeatedly under treatment at various periods of her life, and down to the period of the larceny, and that for attacks characteristic of the highly neurotic temperament, and culminating at times in outbreaks of hystero-epilepsy. The evidence is derived from several independent sources, extending over a considerable period, including the date of the offence for which she is now paying the legal penalty. The *Journal* says that it is not necessary to elaborate the well-known fact that the neurotic patient is often a person in whom there are physical causes of temporary mental aberration, and that there is often in such persons a great mental instability which obscures moral issues, and temporarily affects the character and the judgment.

In the article on "Hysteria" in Quain's "Dictionary of Medicine," Dr. Buzzard says: "There is very frequently not only a deficient regard for truthfulness, but a proneness to active deception and dishonesty. So common is this, that the various phases of hysteria are often assumed to be simple examples of voluntary simulation, and the title of the disease refused to the condition. But it seems more reasonable to refer the symptom to impairment of the highly complex nervous processes which form the physiological side of the moral faculties."

Krafft-Ebing says, in his work on "Psychiatrie," concerning the moral defects associated with this affection: "Lessening of the domain of free-will is evidenced by weakening of the moral sense and of the will power, by fleetingness and superficiality of conceptions, by formal and substantial alteration in modes of perception, and in any case by overmastering ideas, and the patient is only the plaything of her own whims, desires, impulses, and imaginations. Thus it may happen that the most important duties are neglected, the holiest feelings outraged."

Our contemporary says that the evidence falls short of legal responsibility, and it does not advance that plea, but there is yet a borderland of insanity which, although beyond the judicial purview, has a real, a painful, and sad existence. In conclusion, the writer says: "This frail, broken, and unstable woman lies under sentence of imprisonment with hard labor, awaiting the still harder pains of labor in a prison; her present condition is one giving room for great anxiety. The chances of life for herself and her child under the existing conditions are not, as will be seen, favorably estimated by her past medical attendants. We do not attempt to weigh the judicial import of the considerations which this history must suggest. No doubt the attention of the Home Secretary will be called to them, and others more specially called to deduce social and legal consequences will deal with them. The medical and pathological series of links in the case are, however, sufficiently striking, and our part ends in putting them together for consideration. We must say, however, that in our opinion they make for mercy, and strengthen a plea which is uppermost in many minds for a remission of the term of imprisonment prior to the date of accouchement."

We cannot doubt that this presentment of the medical aspect of the case had had much to do with the determination of the authorities to release the woman, and we congratulate our esteemed contemporary on the successful issue of its appeal for mercy.

STATE AID FOR THE PAN-AMERICAN MEDICAL CONGRESS.

In the previous issue of the Medical Record will be found the circular of information of the Pan-American Medical Congress, issued March 17th, which we advise all our readers not only to peruse but also to keep for reference. If they do not keep it the chances are that, as the time for the meeting approaches, they will wish to recall some of the provisions there laid down, and then they will remember our advice and wish they had acted upon it.

As is there stated, the Congress has been incorporated under the laws of the State of Ohio. This we cannot but regard as a very wise and useful measure, although we believe the American Medical Association has existed for a number of years without having been made a corporate body. The incorporation was at the instance of a well known statesman, who recognized the public and political (not partisan) importance of such a drawing together of men of science from the two Americas, and who believed that the general Government would aid the undertaking in a substantial way were there a body corporate legally empowered to receive and disburse money.

Concerning the propriety of Congress making an appropriation to meet the needs of this meeting there can be, it seems to us, no question. It is an unfortunate fact that the Southern Republics and ourselves have been too great strangers to each other. We are of different races, and hitherto the only bond of union between us was that of a common sentiment in favor of liberty—an abstract idea, and one good for orators to declaim about, but really a pretty fragile bond to unite two such dissimilar peoples. The only way in which true friendship and mutual respect and liking can be promoted between the different nations of this continent is by mutual exchange of visits and consequent personal contact of the individual members of these nations. Nothing is so likely to bring about such acquaintance and promote reciprocal good feeling as a Congress of this kind where all meet on the neutral ground of science, political animosities and social prejudices being laid aside and forgotten. It will not only benefit medicine but it will directly benefit this whole country, and every other country in America which may send delegates to Washington.

It is, therefore, no more than just that the National Congress should aid the physicians who have undertaken this work. We should be in a condition to receive our guests in a becoming manner and to do them honor. As is seen in the regulations, the foreign members are to be charged no fee for registration, the total expense falling upon members residing in this country. It cannot therefore be said that the physicians in the United States are seeking to throw the entire burden upon the country. But as the nation will benefit by the holding of this Congress in 1893, it is but right and just that it should also contribute to make the Congress a success in every way, financially and socially as well as scientifically.

A MONUMENT TO THE LATE DR. SAMUEL D. GROSS.

At the last meeting of the American Surgical Association the following resolution was passed:

"*Resolved*, That the President be empowered to appoint a committee with authority to confer with the friends and admirers of the late Professor Samuel D. Gross, and with the profession at large, for the initiation of a movement, on the part of the Association, having for its object the erection of a monument to Dr. Gross in the city of Washington, D.C."

The committee subsequently appointed consists of Drs. William T. Briggs, Tennessee; Levi C. Lane, California; Solon Marks, Wisconsin; L. S. Pilcher, New York; A. Vanderveer, New York; James McCann, Pennsylvania; D. Hayes Agnew, Pennsylvania; J. Ewing Mears, Pennsylvania; S. H. Weeks, Maine; Hunter McGuire, Virginia; L. McLane Tiffany, Maryland; N. P. Dandridge, Ohio; H. H. Mudd, Missouri; J. Collins Warren, Massachusetts; B. A. Watson, New Jersey; D. W. Yandell, Kentucky; N. Senn, Illinois; Charles B. Nancrede, Michigan; W. H. Carmalt, Connecticut.

The Chairman, Dr. J. R. Weist, has issued this circular:

"It is not the purpose of the American Surgical Association to claim the honor of erecting this monument to the memory of one of its most distinguished Fellows; but rather is its intention to initiate a movement in which the entire American profession should feel an equal interest; because Dr. Gross was of no exclusive faction, but a leading member of the whole profession.

"Hence it is, that each member of the committee is instructed to appoint sub-committees in his own State, irrespective of fellowship in this or any other association, which sub-committees will aid him in the collection of contributions to the general fund. Any contributions may be sent to Dr. John B. Roberts, 1627 Walnut Street,

Philadelphia. In the event of a failure to collect a sum sufficient to complete the monument, the contributions will all be returned to the subscribers."

Professor Gross was one of the most conspicuous surgeons America has ever produced, and perhaps no man in his time added so much to the glory of American surgery or the honor of American medicine. No one better deserved the monument proposed, and we trust that the effort to secure it will be successful. Bearing in mind, however, the failure of the attempt to secure a monument for Dr. Rush, we fear that the gentlemen in charge of the matter will have to work very energetically and skilfully. It will not come, experience shows, simply by general appeals, but by personal solicitation.

DR. CYRUS EDSON AS SANITARY SUPERINTENDENT OF THE HEALTH DEPARTMENT.

THE appointment of Dr. Cyrus Edson as Sanitary Superintendent of the Health Department is an eminently fitting one, and a just tribute to long and faithful service. From the time he first entered upon his duties as Sanitary Inspector, until his call to his present responsible office, he has not only made himself an authority on sanitary matters, but has displayed an untiring energy in his other work which has borne the richest fruit in initiating and making practical many much-needed reforms of detail management. Particularly has this been the case with the Bureau of Infectious Diseases, of which he has for so long a period been the efficient superior officer. The general public and profession have always rightly trusted in his ability to take prompt and intelligent action in all cases in which absolute protection against the inroads of contagious diseases was necessary, and the present freedom of this city from epidemics, in spite of the many threatened dangers, is an ample guarantee that in his new office his good record will be maintained. We tender him our congratulations and bespeak for him the hearty support of the medical profession, of which he is such a worthy member.

Doctors at the World's Fair.—At a meeting of the committee—consisting of representatives from the different regular medical societies of Chicago, and whose object is to take whatever steps become possible and consistent in the way of entertainment and assistance to visiting brethren during the great Exposition—held at the Sherman House, April 2d, the following permanent organization was effected: *President*, Dr. Charles Warrington Earle; *General Secretary*, Dr. Archibald Church; *General Treasurer*, Dr. A. E. Hoadley; *American Secretary*, Dr. George Henry Cleveland; *German Secretary*, Dr. F. C. Hotz; *French Secretary*, Dr. Ferdinand Henrotin; *Italian Secretary*, Dr. A. Lagorio; *Scandinavian Secretary*, Dr. Ludvig Hektoen. A Russian and Spanish Secretary (and possibly others to represent the principal foreign tongues) will subsequently be appointed. The several secretaries will undertake the work of information, etc., belonging to them, and it is expected that matured plans will soon be announced, and matters connected therewith be in running order. Inquiries are already coming in, and the necessity for proper action is becoming more and more obvious.

News of the Week.

Small-pox.—Two new cases of small-pox and one death on North Brother Island were reported to the Health Department between noon Saturday and four o'clock on Wednesday. James Tully, two and one-half years old, of 1814 Park Avenue, died on Sunday at daybreak. Frank Burke, twenty-eight years old, whose children were taken from 237 East Fifty-sixth Street on Thursday last, developed the disease on Saturday, and yesterday Mary Grady, of 210 East Fifty-seventh Street, was found suffering with the first symptoms. Both patients were taken to North Brother Island.

Ohio State Medical Society.—The Forty-seventh Annual Meeting will be held at Cincinnati, O., May 4, 5, and 6, 1892.

The Forty-Sixth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane will be held at Washington, D. C., May 3, 4, 5, and 6, 1892.

The Second Annual Meeting of the American Electrotherapeutic Association will be held in New York, October 4, 5, and 6, 1892, at the New York Academy of Medicine, 17 West Forty-third Street. W. J. Morton, M.D., *President;* H. R. Bigelow, M.D., *Secretary.*

The Middleton Goldsmith Lecture before the Pathological Society will be delivered by Dr. Francis P. Kinnicutt, Wednesday evening, May 11th, at the Academy of Medicine. Subject of the lecture is "New Outlooks in the Prophylaxis and Treatment of Tuberculosis."

It is Reported that Secretary Blaine has placed himself under the care of the wrestler and ex-policeman Muldoon, who will give him, it is presumed, the dietetic and hygienic regimen employed in "training."

Iowa State Medical Society.—The Forty-first Annual Meeting of this Association was held at Des Moines, on May 18th, 19th, and 20th, under the presidency of Dr. George F. Jenkins, of Keokuk.

Minute on the Death of Dr. D. Hayes Agnew, adopted by the College of Physicians of Philadelphia, March 24, 1892. The death of Dr. D. Hayes Agnew, recently President of the College, in the seventy fourth year of his age, and after a life crowned with honor and usefulness, calls for an expression of the sense entertained by the College of the gravity of the loss which it suffers, in common with the profession he adorned, the charitable institutions he served, and the community in which his skill did so much to lessen suffering and death. He began his professional life with no adventitious aids; yet by incessant industry, indomitable perseverance, and singleness of purpose he attained to its highest rank. No temptation distracted his attention from the goal of his life—neither extraneous science, nor general literature, nor the allurements of art, nor the pleasures of society. The undivided strength of his mind and his affections were devoted to enlarging the domain of surgery, not only in its operative methods—which he always subordinated to the welfare of his patients—but also in preparing for his profession a literary monument that might speak for him when his voice should be no longer heard.

His minute acquaintance with anatomy, and his ambidextrous skill enabled him to perform, with ease to himself and safety to his patients, operations which less accomplished surgeons hesitated to undertake. He possessed a certain magnetism of manner, quite independent of formality, that evidently proceeded from the heart, and drew all hearts to himself. Never frivolous, but always cheerful, he was dignified, grave, and earnest, making all who heard him as a teacher and speaker, or in familiar intercourse, recognize in him, above all other things, the upright man. For he possessed eloquence of conviction, and the force of absolute honesty in all his statements, and thereby drew to himself, as enthusiastic admirers and disciples, the successive classes of students whom he taught. The College, desiring to show respect for the purity, uprightness, unselfishness, and modesty of Dr. Agnew's character; its admiration for the noble example of his life; and its sense of the value of his contributions to the science and art of surgery, directs that this minute shall be duly recorded, and a copy of it, signed by the President and Secretary, be conveyed to Dr. Agnew's family. Also, that the College will attend the funeral in a body, and that the President be requested to appoint a Fellow to prepare a memoir of our late colleague.

A New Building for the Post-Graduate School.—The directors of the Post-Graduate Medical School have purchased five lots on Second Avenue, on the corner of Twentieth Street, and will proceed, at no very distant day, to build a capacious, beautiful, and fire-proof building, to contain the Medical School, the Hospital and Dispensary, and the Babies' Wards.

The Late Dr. D. Hayes Agnew, says the *Post-Graduate*, "was for many years a great teacher in Philadelphia, at first in a school of anatomy not directly connected with either of the colleges. At a comparatively late time in life he became Professor of Clinical Surgery in the University of Pennsylvania, but he had achieved his fame before then in a private institution, a school of medicine something like the *extra-mural* schools in Edinburgh. He will always be remembered as associated with our Frank Hamilton, in President Garfield's case. It is generally supposed now that the great uncertainty that existed, until death occurred, as to the track and final lodgement of the ball, would have been much less, had the President been first seen by such surgeons as those who finally had the actual surgical responsibility. When Hamilton and Agnew were called, it was too late to make a thorough examination, without great risks. The final result, however, would have been the same, in any case, for the original lesion was necessarily fatal. Dr. Agnew—like his namesake, the great oculist of New York, Cornelius Agnew, who was in no way related to him—was a man of profound religious character, who had a great influence for good in even a larger circle than his professional life circumscribed. A really great man has fallen in our front ranks. Very few physicians, however eminent, leave an estate of a quarter of a million of dollars, as Dr. Agnew has done. He left fifty thousand dollars to the hospital of the University of Pennsylvania."

The Doctor and the Hotel Clerk.—A good story is told of the late Dr. Thayer, of Burlington, concerning his experience at a hotel in Cincinnati, where he stopped, while attending a National Medical Congress, many years ago. Arriving somewhat late in the evening, he went immediately to bed. Upon inspecting his bill, previous to leaving, Dr. Thayer saw he was charged for a supper the night of his arrival, and inquired as to same, saying he had had no supper that night. "But," the clerk said, "you were here; you *might* have had it." "Oh, well," said the doctor, "I can fix that," whereupon he immediately made out a bill against the hotel for medical services, the amount covering the charge for the supper. Upon presenting the same to the clerk, the latter said: "Doctor, I was not aware we had called on you for professional service." "Oh, no," said Dr. Thayer, "but I was here, and you *might* have done so." The procedure, being so original, so pleased the proprietor that he presented Dr. Thayer with his whole bill, and asked him cordially to make him a visit in the future.—Dr. J. H. Linsley.

American Academy of Medicine.—The following topics are promised for discussion at the seventeenth annual meeting of the American Academy of Medicine, at the Cadillac Hotel, Detroit, Mich., on Saturday, June 4, and Monday, June 6, 1892: 1. "Essentials and Non-essentials in Medical Education," the address of the retiring President, Dr. P. S. Conner, of Cincinnati. 2. "The Value of the General Preparatory Training Afforded by the College as Compared with the Special Preparatory Work Suggested by the Medical School in the Preliminary Education of the Physician," a paper by Dr. T. F. Moses, of Urbana, O. 3. "Does a Classical Course Enable a Student to Shorten the Period of Professional Study?" a paper by Dr. V. C. Vaughan, of Ann Arbor, Mich. 4. "The Value of a Collegiate Degree as an Evidence of Fitness for the Study of Medicine," a paper by Dr. L. H. Menter, of Chicago. 5. "The Value of Academical Training Preparatory to the Study of Medicine," a symposium by Drs. H. B. Allyn, of Philadelphia; W. D. Bidwell, of Washington, and Elbert Wing, of Chicago. 6. "The Newer Medical Education in the United States," a symposium by Drs. W. J. Herdman, of Ann Arbor; Charles Jewett, of Brooklyn, and Elbert Wing, of Chicago. 7. "A Paper on Some Phase of the State Supervision of the Practice of Medicine," by Perry H. Millard, of St. Paul. Members of the profession are cordially invited to be present at the sessions of the Academy.

Stenosis of the Larynx Following Fracture.—The case of stenosis of the larynx, reported at a meeting of the Academy of Medicine, on February 18th last, was presented by Dr. W. K. Simpson, of this city, and not by Dr. C. W. Stimson, as was stated in the published report of the meeting.

The Association of Military Surgeons of the National Guard of the United States will hold its second annual meeting in St. Louis on the 19th, 20th, and 21st inst., under the presidency of Dr. N. Senn. Information in regard to the meeting may be obtained from Colonel E. Chancellor, of No. 515 Olive Street, St. Louis.

Castration in place of execution is suggested by Dr. William A. Hammond as the best method for dealing with murderers.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 9, 1891.

H. P. LOOMIS, M.D., VICE-PRESIDENT, IN THE CHAIR.

Filaria Sanguinis Hominis.—DR. SAMUEL W. LAMBERT presented specimens of the above. The patient was a young man of negro descent, nineteen years of age, and a native of Santa Cruz. In July, 1890, the first symptom was noticed, *i.e.*, a turbidity of the urine, most marked early each morning. The following month he came to New York, and while on the ship all the symptoms disappeared without treatment. He has been here ever since, and has been perfectly well up to November 30th, of this year, when the same symptoms returned. The first urine passed in the morning looks like milk, but that passed at other times is only slightly turbid. He complains of some dyspnœa on exertion, and of gastric distress; his appetite is good, tongue clean, and bowels regular. There are elastic swellings in each inguinal region, which appear to be of lymphatic origin. An examination of the urine showed it to have a specific gravity of 1.026, an acid reaction, and to contain albumin, fat, pus-cells, and a few red blood-corpuscles. No filaria have been found in the urine, and only twice in the blood —at 11 P.M. on December 2d and 8th.

The filaria sanguinis hominis is the embryo of a nematoid worm, first described in 1873. The parent is three and a half inches long, and lives in the human lymphatic system. There are numerous larvæ, which are born alive. The young filaria live in the blood, and appear in the general circulation only at night, although one observer states that if the patient eat during the night the worms appear during the daytime. They may give rise to hæmaturia, chyluria, or both. But little is known of their development after leaving the body. They have considerable vitality, as shown by the fact that those recently taken from this patient, and placed on a slide with only a little paraffine around the cover-glass, have, without further precautions, remained quite active for five days. Eight varieties of filaria have been described.

Dr. Lambert showed the urine which had just been passed by the patient, and remarked that it was more milky than any that he had seen at this time in the evening. He also prepared and exhibited a number of specimens of the blood, and showed the living filaria under the microscope.

Traumatic Rupture of the Stomach and Spleen.—Rupture of some one or more of the abdominal viscera is a comparatively frequent result of severe injury. The solid organs more often suffer, though the intestine is not infrequently the site of more or less extensive laceration. Rupture of the stomach is, however, of considerable rarity, and on this account it has seemed advisable to record the following case:

The patient, a girl about five years of age, is said to have been in perfect health prior to a fall from the fourth-story window of a tenement-house, at about 3.15 P.M. on August 29, 1890. In the fall she struck the fire-escape, and a woman who was standing near broke its force somewhat by an attempt to catch the child. When brought to the hospital, a few moments later, she was conscious, but was suffering from severe shock. Slight hemorrhage from the right ear gave rise to a suspicion of fracture of the base of the skull. She vomited food, but no blood. Soon evidence of abdominal hemorrhage became unmistakable, the abdomen being distended and yielding physical signs of fluid, associated with a more profound collapse, rapid and feeble pulse, and gasping respiration. Stimulants were freely administered both by rectum and hypodermatically, but she rapidly lost strength and died about nine o'clock, five hours and three-quarters after the accident.

The autopsy was performed on the afternoon of the next day, eighteen hours after death, and the following notes were taken at the time: Well-nourished body of a girl about five years of age. Slight bruise on the right side of the forehead. Abdomen much distended and of a greenish color, deeper in spots which resemble severe contusions. No evidence of any fracture. The peritoneal cavity contains considerable gas, and about a litre of dark-brown liquid in which there are bits of partially digested food. The liquid has an acid, disagreeable odor resembling that of gastric juice. Examination of the stomach discloses a large rupture along the greater curvature of the cardia. The opening is about three inches long. On the anterior surface of the stomach, near the greater curvature, is another rupture, but extending in this instance through the muscular layers of the stomach wall only. It is about one and one-half inch in length. Near the pylorus, on the posterior surface, is another, smaller rupture of the peritoneal and muscular coats, with considerable ecchymosis into the surrounding tissue of the stomach. The stomach is empty. No other lesion of the alimentary tract is discoverable. The spleen is somewhat large and soft. On its internal surface, near the lower extremity, is a rupture triangular in shape and about an inch in diameter. The liver is somewhat small and is remarkably bloodless. No other lesion is discovered in it. The kidneys are both of about normal size and shape. In the perinephritic fat, especially on the left side, there is considerable extravasated blood. The capsules of the kidneys are non-adherent, and there is no evidence of disease of the organs, though in places on the surface the stars appear very prominent, suggesting congestion there. The uterus and its appendages, and the bladder, are in normal position, and appear to have been uninjured by the fall. The diaphragm has the normal attachment; no rupture. The heart is normal. At the base of the left lung, on its diaphragmatic surface, are several small extravasations of blood, varying in size up to a quarter of an inch in diameter; subpleural. There is no rupture of the visceral pleura. Lungs are normal. Thymus gland persistent, about two inches long, one and one-half broad. Skull: No fracture or injury apparent over calvarium. After removal of brain and dura careful search fails to reveal any sign of fracture of the base. Brain and membranes are normal.[1]

A case strikingly similar to that here presented was reported in 1870 by Buist.[2] A man fell from a railway trestle to the ground, about twenty feet, his left shoulder striking upon a piece of timber in the fall. He "fainted," but soon rallied and was taken home, and was then able to sit up and converse rationally, his chief complaint being "soreness in the limbs and a fulness about the stomach." At 1 A.M. he was found dead in bed, having vomited a small amount of blood. The autopsy revealed about two quarts of liquid blood in the peritoneal cavity, and beginning peritonitis. There was a rupture on the posterior surface of the stomach, at the pyloric extremity, about five inches in length, extending into the duodenum. "A large clot of solid fibrin filled the rupture." The spleen had a rupture about two inches in length and one-half inch in depth. "All other organs were intact and normal." He had not eaten for several hours, and nothing like undigested food was found in the abdominal cavity. He lived about fourteen hours after receipt of the injury.

It is universally admitted, I believe, that the greater frequency of rupture of the solid viscera in severe abdominal contusions depends upon: 1, Their greater density; 2, their proximity to the bony framework of the body; and 3, their greater fixity. It is easy to understand why a large, dense organ like the liver, lying just beneath the ribs and against the spine, and constrained in this position by the diaphragm, by ligaments, and by

[1] The stomach and spleen from this case are preserved in the Museum of the College of Physicians and Surgeons, Nos. 1470 and 1471.

[2] Buist, J. Somers: Rupture of the Stomach and Spleen from a Fall, without External Evidences of Injury, American Journal of the Medical Sciences, October, 1870.

large vessels, should so frequently suffer. In the case of the hollow viscera, however, the problem is not quite so simple, and two theories have been proposed to account for their rupture. The first maintains that the rupture is the result of sudden increase of internal pressure in the viscus—is, in fact, a bursting of the organ. The second denies this, and holds that the injury is a laceration, precisely like that observed in the solid viscera.

Without entering upon any discussion of the comparative merits of these theories,[1] I desire to state that a number of considerations led me to the belief that the injury to the stomach in the two cases here presented was a laceration, and not a burst. In the first place, the stomach in Buist's case was empty. It is distinctly stated that the man had eaten nothing for some time previous to the accident, and that nothing of the nature of stomach contents could be found in the abdominal cavity. In my own case the stomach could not have been very full, for the accident occurred at 3.15 P.M., probably at least two hours after the completion of the noon-day meal.

The location of the tears, too, is not that which would be expected had the stomach burst. Experiments by Revilliod[2] and Key-Aberg,[3] suggested by the observation of cases of bursting of the stomach (in Revilliod's case as the result of accumulation of gas in a dilated stomach; in Key-Aberg's, by forcible lavage during the treatment of opium-poisoning), developed the fact that the injury in bursting was a slit-like tear along the lesser curvature and parallel to it, both observers agreeing that this is the weakest portion of the stomach wall. In the cases here under discussion, of four tears, none had this situation. Furthermore, in my own case, the largest tear was along the attachment of the gastro-splenic ligament, and very close to the rupture in the spleen, which must be considered a lacerated wound.

The association, in both cases, of the rupture of the stomach with lacerations of solid organs, indicates an amount of compression of the abdominal viscera against some solid structure, probably the spinal column, sufficient to have caused laceration of the stomach.

Finally, the great rarity of rupture of the stomach as the result of contusion argues to me distinctly in favor of the laceration theory of these injuries; for the internal pressure of the stomach must be greatly increased in many cases where the point of contact of the contusing force is below the epigastrium; and still in these cases, while rupture of the intestine is frequent, the stomach escapes uninjured. In the present cases the escape of all other portions of the alimentary tract is suggestive in this connection.

Trichinosis.—DR. R. G. FREEMAN presented microscopical specimens showing the trichinæ free in the muscular tissue. The patient from whom the specimen was removed had presented the usual symptoms of trichinosis for about three weeks before death.

DR. H. P. LOOMIS presented a microscopical specimen showing the trichinæ encysted, and also a portion of muscle illustrating the gross appearances found in trichinosis. In this case the disease had not been diagnosticated during life, and the specimens were taken from a subject in the dissecting-room. The muscle showed admirably the numerous fine points scattered through it, looking like "fly-blow." The trichinæ were found in every muscle of the body, but they were not so plentiful in the lower extremities as in the diaphragm and the posterior muscles of the chest.

DR. R. H. SAYRE remarked that if the Government made a more thorough and systematic inspection of all meats used for food, such diseases might be in time stamped out.

[1] This question has been ably treated, as regards the intestine, in a paper by B. Farquhar Curtis: Contusion of the Abdomen, with Rupture of the Intestine (American Journal of the Medical Sciences, October, 1887), in which the following conclusions, among others, were arrived at as the result of many experiments: "1. In contusion of the abdomen the intestine is ruptured by being crushed between the contusing body and the bony parts—the vertebræ and pelvis. The injury is therefore not a true rupture, but a contused and lacerated wound of the gut. 2. Partial distention of the gut, especially if a large part of the intestine is distended, diminishes the danger of rupture. If great distention of an isolated loop ever occurred in life, it would increase the danger of rupture, even for a loop not in contact with bony parts. 3. The most exposed position for the gut is in contact with the bony parts—in front of the vertebræ, near the brim of the pelvis (when hernia is present), and near the crest of the ilium."

[2] Revilliod: Rupture de l'Estomac, Revue méd. de la Suisse Romande, 1885, No. 1.

[3] Key-Aberg, A.: Till läran om den spontana magrupturen, Nordiskt medicin. Archiv, 1890, No. 10, xxii.; Virchow-Hirsch Jahresbericht, 1890, i., 490.

Correspondence.

THE HEALTH RESORTS OF THE RIVIERA.

(Continued from p. 445.)

V.—GENERAL OBSERVATIONS.

(From our Special Commissioner.)

RIVIERA WINDS—LOCAL WINDS—GENERAL WINDS—THE MISTRAL—THE TRAMONTANA—THE GRECO—THE EAST WIND—THE SIROCCO—THE SOUTH WIND—VEGETATION IN RELATION TO CLIMATE.

SAN REMO, March, 1892.

THE present letter is to be devoted to winds and vegetation, both topics of importance to medical men. After that there will be no more General Observations.

A man ought to have a contract to write at least one five-hundred-page octavo volume before rashly attempting to say anything decisive about the winds here. There seem to be new winds all the time. And all the old ones object to retiring, just like doctors on hospital medical boards. Moreover, they all seem to like to blow most of the time—that is to say, the winds, not the doctors. Truly the Mediterranean littoral is a region where the air never gets any rest worth speaking about. Outside of Chicago it is probably the windiest part of the inhabitable globe. From a gentle baby-breeze up to a full-fledged storm of fiercest fury, every possible variety of atmospheric current is here encountered.

For convenience sake it will be well to classify Riviera winds under two headings, viz.: 1. Local periodical winds, that occur regularly every twenty-four hours. 2. General winds, that are observed at irregular intervals.

The local winds represent merely the daily interchange of land and sea air. In the daytime the land enjoys a higher temperature than the sea. Hence the current of air is directed landward from the water. At night the opposite state of affairs exists, and the breeze accordingly returns seaward. Hot air always ascends, and cooler air tends to take its place as it rises. The daily recurrence of these winds is thus easily accounted for. It is further apparent that considerable local differences may result from the relative nearness of snow-covered mountain ranges, which must send a cold land breeze down into every unprotected plain. For this reason the noctural land wind at Cannes, Nice, and San Remo, is appreciably colder than along the region from Villefranche to Mentone, which includes Monaco and Monte Carlo. Actual solar heat is just as great at Marseilles as at Nice or at Mentone, but the marked climatic differences between the cities named are in great measure due to the varying intensity of the cold land breezes. The wind from the sea is pretty much the same thing all along the coast-towns of the Riviera. It springs up every forenoon, and is felt until almost sunset. Of course, when a violent gale sets in, in a direction opposite to the prevailing local winds, the latter are swallowed up in the stronger current and lose their influence. But when the storm subsides, the weaker wind once more asserts itself. Now, here again it will be seen how unreliable the thermometer is in regard to climate. Suppose you do have a high "average" temperature, a daily recurring land wind may chill you to the very bone in spite of it; whereas a lower mean temperature may be unaccompanied by these disagreeable, and at times dangerously cold, winds.

On the other hand, it cannot be denied that a constant interchange of air has a salutary influence in preventing miasmatic or zymotic diseases from becoming firmly rooted in these southern places. Whether coming down from the mountains or sweeping across the sea, the air travels through essentially pure and healthy regions. The prophylactic significance of Riviera winds has not, I believe, been duly appreciated by physicians. For the natives are generally huddled together in close quarters, their habits are filthy in the extreme, every hygienic law is constantly violated by them. Nevertheless, one is at once struck by the slight prevalence of those very diseases that ought to decimate the ranks of these careless, dirty, ignorant masses. True, epidemics have not been altogether unknown. But the people live in a way that entitles them to be never without an epidemic. I am thoroughly convinced that if it were not for the purifying winds, most of these Provençal places would soon become uninhabitable. Dr. Onimus is authority for the statement that during the last cholera epidemic at Marseilles the mortality fell by fifty per cent. on arrival of the mistral.

The general winds come from long distances, and their advent, intensity, and duration cannot, of course, be predicted. Still it is known that in certain months certain winds are apt to occur with some degree of regularity. Thus, according to that careful observer, Teysseire, the windiest months are March, April, May, and October, in the order in which they are named. The calmest months are December and January. My own limited observations confirm this statement, which is a kind of accepted Riviera dogma. Unlike other local teachings, this particular one appears to be founded on unimpeachable observations. One peculiar feature deserves mention in this connection, namely, that a wind which at its point of origin is a rain-carrying one, will often bring fine, clear weather to the Riviera. The moisture is evidently dissipated by the extreme dryness of the local atmosphere. Thus it may rain to the north of the mountain ranges, while the sun shines brightly on their southern slopes and valleys.

The mistral, or, as its name implies, the "master-wind," is *facile princeps* among Riviera breezes. It is always a northwest wind, although every violent gale usually gets the credit of being a true mistral. I have already sung the praises of the mistral in speaking of Cannes. It has not changed since then, so far as I know.

The further east we travel the less violent grows the mistral, owing to the intercepting hills and promontories encountered along its route. But it is not a dead wind, even on the Italian Riviera. March is its favorite month, although no winter or spring month can be claimed to be safely without the time-circuit of its visitations. It is an intensely dry and cold wind. Perhaps that is its sole redeeming feature, for a wet mistral would be simply killing.

The tramontana is a north wind, or a north-north-easter. It is, like the mistral, intensely cold, but owing to the mountain-barriers in its way it rarely reaches the coast-lands in unmitigated severity. A peculiarity of this north wind consists in that it is often transformed into a southerly wind in those localities where the mountains run down close to the water's edge. A failure on the part of many observers to realize this peculiarity has resulted in much confusion.

An explanation of this remarkable phenomenon is given by Dr. Bennet, about as follows: The north wind reaches the sea at some distance from the beach, owing to the protection granted by the mountains. It leaves the waters inshore calm or nearly so. The sea air that later rushes in to supply the place of the rarefied land air, pushing angry billows before it, is merely the north wind, which having passed overhead and gone out to sea, is pulled back by the mid-day heat.

The greco is a northeast wind, cold, piercing, and very trying to the sick and well. The Western Riviera is less exposed to its biting attacks than the Genoese territory. But it is not, as has been claimed, entirely exempt. Teysseire states that it occurs only about eight times a year at Nice. It is a clear-weather wind coming from countries much colder than the seaboard. Atmospheric vapor is absorbed, not deposited, by the greco. In fact, it may be stated as a general law that winds coming from colder regions bring fair weather on account of absorbing vapors, whereas winds blowing from warmer countries will bring rain, for the opposite reason.

The east wind blowing due east is not often encountered in the winter season. It is more of a spring and summer visitor. Still it does occur in cold weather, and it is then disagreeably cutting. Its velocity is said to be rarely high. But the accessible Riviera records are quite incomplete in regard to reliable information concerning this essential factor, the velocity of winds. It would be well to give some serious scientific attention to so important a detail.

The sirocco, a native of Africa, where its heat is likened to that of a furnace, is a southeaster on the Riviera. It blows oftenest in spring and summer, though, like its predecessors, it is not unknown in the winter months. Rain accompanies or follows it. Dr. de Valcourt calls it the rainy wind of the Riviera. In crossing the Mediterranean Sea the sirocco accumulates moisture. Yeo describes it as warm, wet, and enervating. He could not have more tersely characterized its essential features. You feel all used up after one of its visitations.

The south winds belong to the moist marine variety. They bring clouds and rain. The heavy spring and autumn downpours are generally accompanied by southerly winds. But the direction of the southern current is generally changed to east or west, so that a purely southern wind does not often blow here. Southeast winds are warmer than the southwesterly ones.

"The presence or absence of a plant in a locality says more than would pages of thermometrical observations. Plants, moreover, reveal much more than mere temperature, for they are influenced in life, health, and luxuriance by moisture or by dryness, by wind or by calm, and by the nature of the soil in which they grow." (Bennet.)

As previously intimated, one can study climate through vegetation, and without being an expert botanist it soon becomes apparent to the visitor that the general features of the Mediterranean flora are invariably the same at all the health-resorts of the Riviera.

Now, I do not intend to inflict on your readers a learned disquisition on all the trees and plants that grow in these parts. Those who hanker after that sort of thing will find almost fifty pages (big ones, too) devoted to the "trees of the Riviera," in Dr. Sparks's work. Bennet, too, and most authors, excepting Yeo, present you with more vegetables disguised in Latin garb than you can conveniently digest in a couple of lifetimes. But in the same way that I was compelled to give you a little lesson in geography, you might as well take your brief instruction in botany without wincing. For I don't propose to have anybody tell me that I can't distinguish a telegraph-pole from a eucalyptus-tree, although, especially in carnival time, the moonshine of the early morning hours is a trifle confusing from a strictly vegetarian point of view.

The Riviera is part of the warmer temperate zone, and plants will thrive there that frost would kill. As a matter of fact, every now and then a season of freezing cold does kill off thousands of the more tender flowers, shrubs, and trees. You will have to get way down to southern Italy before a perennial flora of the kind seen here can be found.

The olive-tree is seen all over the south of France, and as it is able to resist frost it does not signify anything in regard to an equable temperature. Still the fact that many Riviera olive-trees contrast by their size and beauty with the dwarfed specimens found elsewhere, may

be interpreted to mean a relatively favored clime. In congenial soil these trees are said to live forever. At Monaco they show you olive-trees that are supposed to have a straight family record, going back to the days of the Roman empire. I fancy some real old American families would gladly exchange their own lineage for that of these trees. The olive makes the agriculturist wealthy, but, as already stated, it says little in regard to climate. It is different with orange- and more particularly with lemon-trees. Where these grow in the open air and permit their fruit to ripen without artificial protection, severe frost has no home. At Mentone, for example, the lemon-tree flowers all the year round, and allows a fine crop of fruit to be gathered four times every year

Fig-trees are allowed to disfigure the landscape to an unnecessary extent in some places. In winter they look beautifully ugly.

But to actually "walk in olive-groves," and "sit under the fig-tree," makes you feel as though some of the Sunday-school talks of early youth had not been altogether wasted on mind and memory.

The tall and graceful eucalyptus-trees have been recently introduced here. They thrive well and grow to an enormous height. I have not yet heard of confirmed malariacs shedding their symptoms while promenading under the shade of the eucalyptus.

The carouba, or locust-tree, is another scriptural acquaintance that you cannot escape from down here. It has been truly named an emblem of evergreen vegetation, and as such speaks well for the local climate. It is a pretty tree to look upon.

Almond-, pomegranate-, and especially pepper-trees are old kitchen friends that you naturally like to meet. They don't make you sneeze either, out in the open air, which is considerate, if nothing more.

Thyme and lavender are bushes that likewise have a culinary significance. But they are less frequently encountered than many other shrubs.

To medical men the acacia (a gum-tree, but not of the chewy kind) and the camphor-tree are also interesting. So is the sharply pointed, porcupiny shrub, growing everywhere and supplying a favorite dinner pill ingredient, the aloe.

"Chian turpentine" trees, likewise, abound here. So does every variety of cancer, the ocular demonstration of an exploded therapeutical dogma.

Oaks, planes, and willows are the principal deciduous trees encountered on the Riviera.

The juniper, the Aleppo pine, the queer-looking umbrella pine, the cork-trees, that look for all the world as though they were under approved modern treatment for elephantiasis, are met with wherever you go.

The oleander, arbutus, myrtle, heath, mountain lavender, and prickly broom are likewise met at most places.

Smilax, ivy, all kinds of ferns, prickly pears, about complete the list of green things that everybody knows, except, of course, garden vegetables. The latter were intended not for the sense of sight and smell, but for that of glut—a very frequent sense at the table d'hôte.

I must not, however, omit to mention all kinds of palms, and the greatly overrated mimosa with its jaundiced flowers. The palms grow in such beautiful profusion that they must really be seen to be truly appreciated.

These, then, are the principal trees, shrubs, and plants which I really know something about, and which are easily recognizable.

But for the sake of some completeness, I might as well mention a few common garden flowers found along the Riviera. I will take Dr. Bennet's list. Not because it is in Latin, but because he took it, I presume, from some expert botanist, who in his turn cribbed it from some older author, who probably did not invent it either. We all do that sort of thing, when we feel sure nobody is looking. And before Adam we are all even—ancestors, contemporaries, posterity—the whole strange rigmarole called life and death, or history, or fact, or fiction, or anything you choose. Let us, therefore, not despise the flower in its bloom, and if it grows so plentifully that they do extravagant battle with it, let us be duly thankful. It really needs a *bataille des fleurs* to convince the sceptic what a multitude of beautiful flowers grow here in riotous luxuriance. And then, too, flowers are the only really cheap thing on the whole Riviera.

But here is the list: Cactaceæ in general, mesembryanthemum, iris, maritime squill, cineraria maritima, alyssum, rosemary, thyme, wallflowers, stocks, carnations, marguerite, geranium, pelargonium, marigold, arabis, silene pendula, primula (common and Chinese), violets, pansies, nemophila; hepatica, roses, chrysanthemum, salvias of many kinds, lavender, mignonette, fabriana imbricata, justicia alba, tobacco, red valerian, daphne, spirea, achillea, veronica, erica mediterranea, nasturtium, habrothamnus elegans, lantana, abutilon, datura stramonium, linum trigynum, sparmannia africana, petunia, cyclamen, camellias, azaleas, calla æthiopica, richardia æthiopica, wigandia caracasana, bignonias, begonias, cineraria, verbena, cytisus, cistus, many species of passion-flowers, chorozema, and most Australian winter-flowering mimosæ and acaciæ; spring bulbs—crocus, snowdrop, hyacinth, ranunculus, narcissus, ixia, sparaxis. Most of these plants can rest in the warm dry summer without being injured thereby. They are all, or nearly all, perennial in this climate. They start into life with the autumn rains, flowering more or less early in the winter or spring, and most of them continue in full bloom from Christmas to April, a month which, horticulturally, corresponds to June in England.

If I have inadvertently omitted to mention any pretty flower, or ugly bush, or stately tree, I regret the fact more sincerely probably than the reader. But I can make no rash promise to write a vegetable supplement later on.

Alcoholism and Tuberculosis.—Dr. Hector W. G. Mackenzie, assistant physician to the Brompton Hospital for Consumptives, is of opinion that tuberculosis is much more common among those addicted to alcohol than is generally believed. He says that his experience among the out-patients at the Brompton Hospital is that a considerable portion of the phthisical—especially of the men—have been alcoholic, and that a history of alcoholism is a very common antecedent in those cases where there is no inherited susceptibility to tubercle. As regards women, it is impossible to say to what extent alcohol is responsible for the disease, it being very uncommon for a woman to own to alcoholic habits. He finds that in alcoholic cases the condition of the patient is generally worse than would be expected from the amount of disease revealed by physical examination. It is therefore specially important in such cases, when there are any chest symptoms, to examine the sputum for bacilli. By this means he has been able to make an early diagnosis of phthisis when the examination of the chest was negative. In alcoholic cases the progress of the disease, as a rule, is rapid, and the prognosis particularly unfavorable. Dr. Mackenzie does not offer an explanation why many drunkards develop phthisis. Our observation leads us to the conclusion that in the majority of cases of phthisis in inebriates the patients have endeavored to live on alcoholics in lieu of food. Everyone admits the importance of malnutrition as a factor in the causation of tuberculosis, and it is not a matter for surprise that drunkards who habitually neglect their food frequently die of phthisis.—*Hospital Gazette.*

A Pacific Association of Rhinology, Laryngology, and Otology.—It is proposed to form a society of practitioners residing west of the Rocky Mountains who are especially interested in diseases of the nose, throat, and ears. The society will be organized at the time of the meeting of the California State Society, in San Francisco, on April 19th.

OUR LONDON LETTER.

(From our Special Correspondent.)

CONCLUSION OF THE DEBATE ON PHAGOCYTOSIS AND IMMUNITY AT THE PATHOLOGICAL SOCIETY—SPEECHES BY DR. RUFFER, MR. BALLANCE, MR. HANKIN, DR. SIMS WOODHEAD, AND SIR GEORGE HUMPHRY.

LONDON, March 19, 1892.

THE debate at the Pathological Society on phagocytosis and immunity was resumed again on Tuesday evening last and brought to a conclusion. Dr. Ruffer opened the adjourned discussion and confessed himself to be so far a disciple of Metschnikoff that he accepted his theory in its entirety. He remarked that not one of the speakers had explained what he meant by immunity. There was, he said, no animal, whether naturally resistant or protected by artificial means, which could not be killed by the introduction of a specific microbe, provided a sufficiently large dose were used. To talk of an animal being immune against a given microbe was to speak of something which did not exist, and he would rather speak of animals as being naturally resistant and artificially protected respectively. In both cases he believed that the destruction of micro-organisms was accomplished by the amœboid cells termed phagocytes, but he was not aware that Metschnikoff, or any of his pupils, had ever said that this was the only cause of the increased resistance of such animals. Dr. Ruffer explained that he had not himself said anywhere that all microphages, epithelioid cells, etc., were derived from leucocytes; what he had said was that in the cases he had observed the microphages were derived from small lymphocytes. There could be no doubt that leucocytes had the power of taking bacilli into their interior, and that the organisms underwent some kind of destruction. Any one who possessed a good lens, a drop of frog's blood, and a few anthrax bacilli, could observe this for himself. Dr. Klein had laid stress on the fact that, in several instances, the process was reversed and the leucocytes were destroyed by the bacteria, and he had urged that this was a fatal objection to Metschnikoff's theory. In almost every one of his (Dr. Ruffer's) papers, however, he had specially mentioned that a large number of amœboid cells perished in the fight; he had shown this to take place in the healthy rabbit's Peyer's patch, in the diphtheritic membrane, in actinomycosis, in tubercle, in charbon symptomatique, etc. He was willing to allow the accuracy of Dr. Klein's experiment when, on injecting a quarter or half a syringeful of fluid containing anthrax spores or anthrax bacilli, he found the anthrax bacilli in the blood a few minutes afterward. It would be wonderful if it were not so, for the frog's phagocytes could arrest a certain number of bacilli, but not an immoderate number. Dr. Ruffer said he had shown in one of his papers that in animals exhibiting some resistance against the bacillus of Chauveau, the disease was strictly limited to the point of inoculation and its immediate neighborhood; when, from any cause, the amœboid cells were prevented from approaching the virus, the disease became general and the animal died. It was easy to prove that in an animal anæsthetized by subcutaneous injections of chloral hydrate the leucocytes were inactive. He had vainly sought for any evidence to show that the fluids of chloralized guinea-pigs were better cultivating media for the bacillus pyocyaneus than those of a non-chloralized animal; in both chloralized and non-chloralized animals the bacilli seemed to thrive exceedingly well in the fluids of the living body. This was another instance of the part taken by phagocytes in the limitation of the disease. It had been proved that the substances which attracted the amœboid cells toward the virus were the poisons secreted by, or contained in, the micro-organisms. It was probable that in some cases these poisons might have the opposite effect, viz., that of repelling amœboid cells. Dr. Ruffer described some experiments he had made which seemed to show that the same substance might attract or repel leucocytes according to its state of concentration. When once the poison secreted by a particular micro-organism had penetrated into the system, it would appear as if in many cases the leucocytes had lost the power of leaving the blood-vessels in order to attack the invading micro-organisms. This loss of power was not always due to a paralysis of the cells, as these still emigrated freely in order to attack certain other bacilli but resulted from some other cause still shrouded in mystery. Phagocytes exerted a distinct choice between two kinds of microbes. They would leave the bacillus of tetanus for the micro-bacillus prodigiosus, and the streptococcus for the bacillus of diphtheria. This was well illustrated in the diphtheritic membrane, where at the surface one could see leucocytes taking in numbers of bacilli, but leaving streptococci almost untouched, with the immediate result that streptococci were often met with in the deeper parts of the membrane, and with the remote result that secondary abscesses occurring in the course of diphtheria were never due to the bacillus of diphtheria but to some other micro-organism. The study of the diphtheritic membrane showed the remarkable resisting powers of leucocytes, for although the tissues underlying the membrane were necrosed and dead, the leucocytes had the power of marching in numbers right up to the bacilli and waging war against them, although, as he had shown, many perished in the fight. He could not agree with Buchner that the fluids of a living animal played any part in killing bacilli. It was a most remarkable fact that if the serum of an animal was found to possess the power of killing any germ, yet that same microbe, if injected into the living tissues of that animal, would flourish and multiply; the only exception he knew to this was the white rat, which was not only resistant against anthrax but its serum was also bactericidal to that microbe. There was no relation between the bactericidal power of serum and the resistance of the animal to the micro-organism. It had recently been shown that the serum of animals protected against the pneumococcus was a far better cultivating medium for that organism than the serum of animals not so protected. It was easy to understand why micro-organisms became more virulent when passed through resistant animals, for a process of elimination took place, the weaker germs being killed, and only the more hardy surviving. There was no evidence that the fluids of a living resistant animal took any share in attenuation of virus, and he believed that the only process essential to resistance, or so called immunity, was the power the cells possessed of taking micro-organisms into their interior and destroying them.

Mr. Ballance said the question of immunity had an especial interest for surgeons, whose daily occupation was the making of wounds which, if not rendered immune against the attacks of micro-organisms, might seriously imperil life. The observation of the manner in which nature removed foreign material in wounds would to some extent aid in the study of similar processes when engaged in warfare with disease, for it was not to be supposed that the tissues were supplied with various weapons, each designed to repel the attack of a different foe. In conjunction with Professor Sherrington he had studied the question of repair by introducing small Ziegler chambers into the subcutaneous tissue and peritoneal cavity of certain animals. As the result of their observations, they concluded that the invading leucocytes had only a temporary purpose to fulfil in the healing of a wound, and that the number invading the tissues was to some extent adapted to the nutritive requirements of the amœboid connective-tissue corpuscles, whose food they constituted, and which alone spun the connective tissue that repaired the wound. The rush of leucocytes which occurred toward a spot invaded by micro organisms might, however, be useful. They might, though of feeble vitality, be able to digest and destroy certain of the foreign organisms. By the death of others a ferment might be set free which might diminish the vitality of some of the

bacteria, and thus cause them to be an easier prey of other cells. Abundance of food (leucocytes) for the after-coming connective-tissue corpuscles would be associated with the attainment by them of the highest degree of vigor and vitality. Mr. Ballance said that all the main work in wounds—not only with regard to repair, but with reference to the removal of foreign bodies, such as clot, ligatures, micro-organisms, etc.—appeared to fall upon the connective-tissue cell, and he adduced a number of facts which told against the view that the leucocytes were tissue repairers. The amœboid cells of the body had been observed devouring in their food vacuoles, various kinds of food, and various foreign material. The further question arose, What action had they upon substances outside themselves? In other words, did they give to the fluids they lived in a fluid or ferment which could act upon uncoagulated, unshielded proteid in the same way as the fluid of a food vacuole? He thought the answer must be in the affirmative, and that the alleged bactericidal power of the body fluids might thus be explained. The death of leucocytes, which was always occurring, might be thought of as setting free into the body fluids fibrin ferments—a body which must be closely allied to Hankin's anti-toxic substance and Wooldridge's tissue fibrinogen. The normal physiological activity of the cells of the body might thus possibly explain the defensive action of the healthy tissues and fluids against bacterial infection. The question was essentially a chemical one.

Mr. Hankin said that on the one hand there was a body of evidence that appeared to be irrefutable in favor of the view that phagocytes played an important part in the production of immunity. On the other hand, the supporters of the so-called humoral theory had shown that in several cases an increase of the bactericidal power of body fluids accompanied the acquisition of immunity. It was unphilosophical to suppose that the latter change was merely of the nature of an epiphenomenon. There were a number of cases in which, if an animal were inoculated with a microbe against which it was naturally immune, the microbes multiplied till the phagocytes arrived on the scene. There were also a number of cases in which the phagocytes attacked the microbes and were then destroyed by them. Thus an animal was only immune against a disease if its phagocytes were immune against the microbe. Why were the microbes victorious in one case and the phagocytes in the other? The discovery of alexius suggested an answer to this question. If the phagocytes were victorious, it was because a particular alexin was present that had the power of destroying the microbe. It could be shown that the bactericidal power possessed by body fluids after death was absent from them during life. This strongly suggested that the bacteria-killing activity of blood serum, for example, was due to substances (alexius) derived from cells after the blood had been liberated from the body. In other words, the absence of bactericidal power from the body fluids during life could be explained by the intactness of the phagocytes and other contained cells. Mr. Hankin discussed at some length various objections to this view which had been put forward.

Dr. Sims Woodhead then replied. He observed that the term "immunity" was used in two different senses in clinical and experimental work. A patient was only exposed to the ordinary chances of infection, as usually understood, whereas an animal in the hands of the experimenter was subject to very different conditions, as, for instance, when injected with an organism of specially virulent growth. It was well known that, under suitable conditions, an organism might become much more virulent than usual. In the case of the tubercle bacillus, tuberculosis could be produced with great certainty in an animal ordinarily insusceptible to the bacillus if the organism were injected into the peritoneal cavity. He thought specificity was to a great extent a question of phagocytosis, and that if an animal was immune it was due to phagocytosis. Professor Klein's case of injecting innumerable anthrax bacilli into the lymph sac of a frog had no analogy. As Metschnikoff had stated, the phagocytic power of the leucocytes might in certain individuals be imperfectly developed. With regard to the main question, all the positive evidence was in favor of phagocytosis, so far as the earlier stages of infective diseases were concerned, and it was the only theory on which both the experimental and clinical evidence could be explained. There was no real evidence for the humoral theory, for results obtained with serum which was a product of dead blood could not be assumed to hold good for living blood. He could not agree with Klein's statement that bacilli got into the leucocytes to avoid the bactericidal blood plasma, for many of them were non-motile, and could not possibly push their way into the leucocytes.

The President (Sir George Humphry) then closed the discussion. He remarked that the general tendency of the discussion had been to establish the existence of phagocytosis. The leucocytes generally succeeded in absorbing the microbes, unless the latter were too many or too virulent for them. The chemical questions were much more difficult and uncertain. The question of exhaustion had not been touched. No theory of phagocytosis was capable of explaining why a catarrh, after attacking one part, left it and proceeded to attack other parts. Why, when the microbes of small-pox or of scarlet fever were apparently in full possession, should subsidence of the diseases occur? Was it due to some self-engendered poison, or had they exhausted the pabulum?

THE GUILD MISERICORDIA.

To the Editor of the Medical Record.

SIR: The Medical Guild of Misericordia is a society of medical men, practitioners and medical students, interested in the work of mercy for the sorrowing and the suffering. The Guild comprises an order of brothers and associates—the former communicants of the Episcopal Church, and the latter members of *any Christian* denomination. The great cause of medical missions has never received attention in the United States or anywhere else in Christendom since the days of early Christianity. The Misericordia is designed to develop, so far as possible, the invaluable opportunities which exist for extending Christ's kingdom on earth through the aid of medical missionaries. More so than any other, the profession of medicine—so highly blessed by divine recognition, should stand ready to aid the Church, not only by affording scientific witness to the truth, but also by practical works of mercy for His sake—continually remembering the example of Him who went about doing good. It also aims to afford professional relief in urgent cases to the worthy poor. The Guild desires to have representatives in every city and town, and especially in mining regions, railroad centres, etc., so that in case of sudden and appalling disaster, like that in Johnstown, Penn., the work of relief may be intrusted in the care of members of the Guild and speedy aid and comfort be thereby attained. It is a noble work, giving emphasis to the life of all medical men, who are so well known for charity the world over. Full particulars may be obtained by addressing The Guild Misericordia, P. O. Box 1405, Beverly, Mass.

W. THORNTON PARKER, M.D.

The Vienna Medical Society.—At a recent meeting of the Imperial Royal Medical Society of Vienna, Professor Billroth announced that 9,000 florins had been subscribed for the erection of a building to be used as the permanent home of the organization. Of this amount the Emperor gave 5,000, and a lady who wished to remain anonymous gave 4,000. The individual members of the society then subscribed a sufficient amount to secure the erection of the building.

New Instruments.

A NEW SURGICAL NEEDLE.

By GEORGE PLACE CLEMENTS, M.D.,
NEW YORK.

I DESIRE to call the attention of the medical profession to a new needle that I have devised for the purpose of introducing a silver-wire suture in operations for repair of cervix or perineum, or wherever a silver-wire suture is required. The needle is hollow, and curved near its point, as seen by the cut. An opening is formed in the handle for the entrance of the wire. It is so constructed that, should the curved needle break, a new one could be attached to the holder. The wire should be cut the length desired, and one end inserted into the opening in the handle, and pushed forward near to the point of exit. The needle is then driven through the tissue and the wire passed along until it emerges far enough to be grasped by forceps or fingers. The needle is then withdrawn, leaving the wire in position. In this way the wire is placed in position direct, without the use of silk or needle-holder. The instrument is manufactured and sold by the Ford Surgical Instrument Co., of 313 Fifth Avenue. My thanks are due to Mr. C. F. Ford for the interest he manifested in carrying out my idea and producing a perfect needle.

TROCAR AND DILATING CANNULA FOR ABSCESS DRAINAGE.

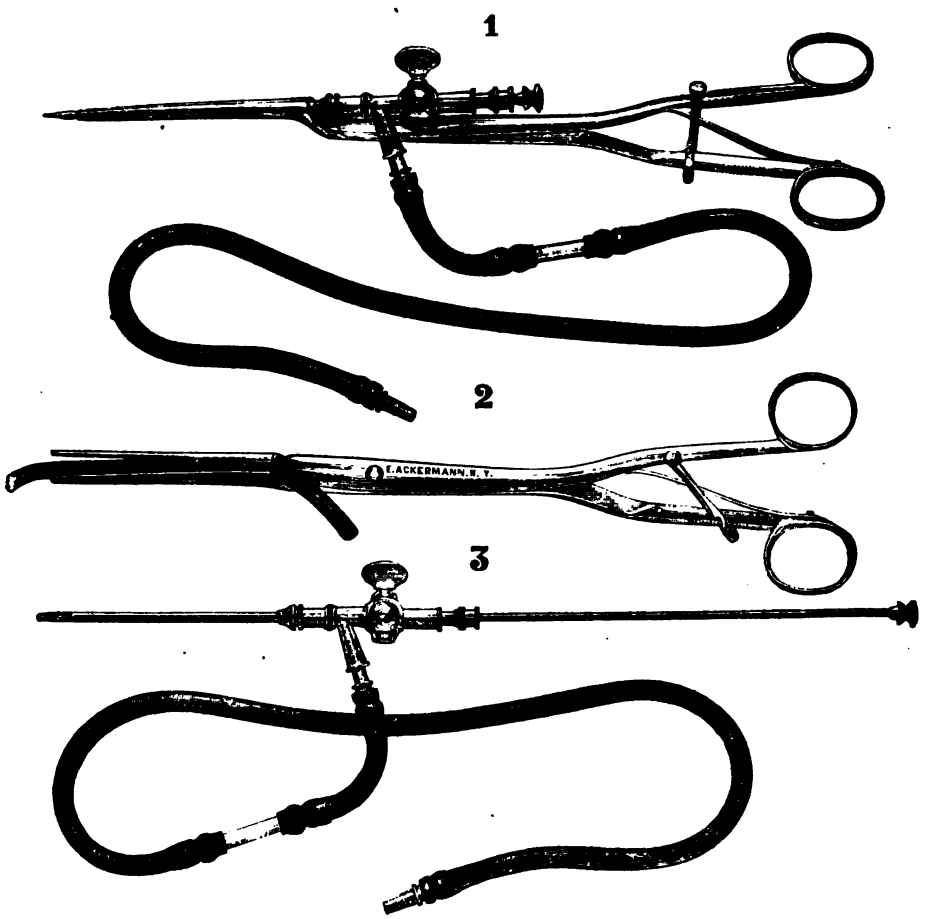
By J. JULIO HENNA, M.D.,
SURGEON TO THE FRENCH HOSPITAL, NEW YORK.

MY attention having been called to Dr. Bache Emmet's drainage trocar (MEDICAL RECORD, March 19, 1892), I herewith beg to submit an instrument which I devised in February, 1891, and which I have ever since used in the French Hospital and in private practice. The idea occurred to me while helping my colleague, Dr. W. Duncan McKim, at the hospital, to operate on a large pelvic abscess, by means of that most unfit and dangerous instrument the scissors.

The new instrument, which I have named "trocar and dilating cannula for abscess drainage," gives the surgeon entire command over the field of operation, besides the advantage of inquiring into the quality of the fluid contained in the sac, after which he can choose between aspirating and washing out, or dilating and draining, without exposing his patient to the many incidents prone to occur with the scissors, such as hemorrhage, false passages, injuring the walls of the abscess, etc. The three plates and the description of the mechanism, I hope, will convey a clear idea of the simplicity of the instrument. As implied by the name, it consists of two distinct parts, a trocar, No. 3, and a dilating cannula, No. 2. The trocar portion may be described as consisting of the following parts: 1. A trocar proper, the spearhead of which has a greatest diameter of one-sixteenth of an inch, with its facets bevelled posteriorly to facilitate withdrawal, and the shaft expanding at the proximal end into a disk, where the thumb is applied to effect the perforating thrust. 2. A cannula, three and three-quarter inches in length, tapering slightly at its distal end, where it is split into four leaves, to increase the elasticity of its embrace about the passing head of the trocar. 3. A short tube, to be screwed to the cannula, provided with a vent-pipe at its distal end for the attachment of rubber-tubing, a stop-cock at its middle, and an orifice at the proximal end for the passage of the trocar. The dilating cannula resembles, in many respects, an ordinary uterine dilator, consisting of two blades which are caused to separate by an approximation of the handles. The blades are concave on the inner surface and convex on the outer, so that, when in contact, they form, externally, a long truncated cone of very gradual taper, the base being toward the handles, while internally there is formed a canal. The two shanks are held together by a pivot-joint of the kind in common use for scissors and artery-forceps. There is an elastic steel arm between the handles, serving as a spring, whereby the blades are kept in constant contact. A kind of yoke passes from one handle to the other, through adjustment of which the handles may be rigidly fixed at their greatest separation, which means an immovable contact on the part of the blades. By sliding one end of this yoke along a ratch, the blades may be fixed at any angle of divergence. The greatest separation of which the blades are capable is, at their distal ends, about three-quarters of an inch.

The parts of the instrument are all quickly detachable and easily cleaned, so that a condition of asepsis is readily effected.

The use of the instrument, in a case of pelvic abscess, may be thus described: The blades of the dilating cannula are separated, the cannula with included trocar is laid within their grooves, the blades are again approximated and so held by the handle-yoke, whereby the trocar cannula is firmly grasped, and the unity of the instrument



is complete. The trocar point being well withdrawn into the cannula, the end of the dilating cannula is advanced along a finger within the vagina to the point of intended puncture. The handle of the instrument being held in the palm of the right hand, the trocar is now thrust into the abscess by pressure of the thumb. The elastic embrace of the cannula end offers some little resistance to the onward motion of the trocar head, but as the passage is completed there arises thereby a spring-like momentum which facilitates penetration. The dilating canula is now pushed on into the abscess cavity, the trocar is withdrawn to its full extent, the stop-cock is turned, and the abscess fluid escapes along the vent-pipe and rubber-tubing, in the course of which latter there is an interposed glass tube through which the nature of the fluid becomes apparent. If it be desired, now, to make permanent drainage, the blades of the dilating cannula are separated, the trocar cannula is removed, and through the opening maintained by the divergent blades, a rubber drainage-tube is easily introduced into the cavity of the abscess.

This instrument was made for me by E. Ackermann, 153 West Twenty ninth Street, New York.

8 West Fortieth Street, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 23, 1892.

	Cases.	Deaths.
Typhus fever	3	0
Typhoid fever	8	2
Scarlet fever	244	27
Cerebro-spinal meningitis	4	5
Measles	529	23
Diphtheria	118	36
Small-pox	28	3
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

The Congress of Criminal Anthropology in its Relations to Sociology and Biology will hold its third meeting at Brussels from August 28 to September 3, 1892. The following is the programme of subjects for discussion: "The Physical, Intellectual, and Moral Characteristics of Born Criminals; Is there an Anatomical Type distinctive of Criminals?" "Suicide and Insanity in Criminals;" "Influence of Simulation on the Production of Genuine Attacks of Insanity;" "Physical and Economic Influences of Criminality;" "Applications of Criminal Biology and Sociology to Legislation and Jurisprudence;" "Determination of the Psycho moral Worth of Parties in Civil Processes;" "Relapse and Premeditation in their Relations to the Suggestions of Social Surroundings and Individual Obsessions;" "Criminal Suggestions;" "Characteristics of Criminality in Children, Adolescents, and Old People;" "Characteristics of Criminality in Woman;" "Necessity of Regarding the Psycho-moral Examination of Certain Prisoners and Defendants as a Duty on the Part of the *Juge d'Instruction;*" "Incorrigibility, its Characteristics and the Measures of Repression which it Admits of;" "Measures to be Taken with Regard to Offenders Suffering from 'Moral Insanity,' to Lunatics who have Committed Crimes, and to Criminals who have become Insane or have been Recognized as such while awaiting Trial;" "Influence of Professions on Criminality;" "Criminal Morbid Obsessions;" "To what Extent is it Necessary or Desirable to Undertake the Study of Criminal Psychology or Psycho-pathology in Prisons?" "What Measures should be Taken as Regards Incorrigible Offenders and Habitual Offenders, and what is the Proper Authority to Decide about Them?" "Collective Offences; Criminality of Crowds and of the Sexes."

The Opium Controversy.—It is with opium as with alcohol. We are continually hearing from opposite stand-points "the truth" about it. As yet, however, the unpractised hearer, however candid, finds himself so beset with contrary arguments that he has little chance of arriving at an exact opinion on the subject of its use or its abuse. We had occasion recently to notice the significant fact that a memorial condemnatory of the growth and sale of the drug, as now permitted by the Indian Government, had received the signatures of some five thousand British medical practitioners, a considerable number of these having had, we may state, personal observation of the opium habit as practised in China or India. On the other hand, we have a mass of official Indian testimony, largely drawn, moreover, from non-medical sources, which is opposed to the view that the use of opium has gravely prejudiced the health of our fellow-subjects in that country, that it is decidedly increasing, or that its manufacture there has any marked influence on the maintenance of opium-eating and smoking in China. According to this evidence, not only is the drug, if used in moderation, not injurious, but it is in some cases—notably those of persons exposed, as in Assam and Eastern Bengal, to damp and malaria—positively beneficial; it is conservative of physical endurance, it enables the consumer to live healthily on less food than he would otherwise require; it does not, as asserted, cloud his mental faculties, and, even if hurtful, it is so by reason either of adulteration with Indian hemp or of excessive indulgence. They assure us also that the Chinese objection to its importation is only pretence, and intended to protect the privileges of native producers. We observe, however, that even these advocates of its utility do not deny the capacity for mischief possessed by opium if indiscreetly taken. Neither do they dispute its essentially and strongly poisonous character. They show, moreover, no direct or indirect advantage worth naming as arising from its consumption, unless in the presence of illness or as a preventive of malarial infection. These facts, in our opinion, are quite sufficient to justify its restriction to purely therapeutic uses, the more so that it is, if we may trust the teaching of modern observation, by no means the best safeguard against malaria. As regards the attitude of the Chinese Government, we may note a statement by the Viceroy Li Hung Chang, in 1881, in which he resents on moral grounds the encouragement given by this country to the opium habit in his own, and declares that the opium war must be taken as China's ineffectual protest against our action. Our ambassadors to China, Sir Rutherford Alcock and Sir Thomas Wade, unlike some critics less favored as to means of observation, were convinced of the sincerity of these protestations. In Burmah, it is said, matters are coming to a condition no more hopeful than that of her greater neighbors, foreigners and the natives alike indulging freely, and with obvious injury to health and morals, in the same seductive habit. In the face of such facts as these we confess that we can see but one way of escape from the difficulties which surround this question—that is, the legal restriction of opium to its use for purely medical purposes.—*The Lancet*, March 5, 1892.

Damages for Lost Grafts.—A novel action for damages in reported to be pending somewhere in the German Empire under somewhat curious circumstances. A nurse allowed skin grafts to be snipped from her lily white arm in deference to the wishes of the patient and the request of the surgeon. Unfortunately, the wound did not heal, as might have been anticipated, but proved the starting-point of a cellulitis, causing great suffering, permanent disfigurement, and some loss of function. The nurse consequently feels aggrieved, and claims damages from the surgeon.—*Medical Press.*

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Original Articles.

TWO NEW CLAMPS FOR USE IN ABDOMINAL SURGERY.

By R. MARTIN GIL, M.D.,

MEDICAL DIRECTOR OF THE HOSPITAL "NOBLE," MALAGA, SPAIN.

It is a very general opinion among gynecologists that in the technique of ovariotomies intra-peritoneal treatment should be preferred, and that entire or partial ligatures of the pedicle, cauterizations, sutures, etc., should be done away with, in order to avoid subsequent hemorrhages, which not alone expose the operation to ultimate failure by retarding healing, but also frequently endanger the lives of patients.

Intra-peritoneal treatment of the stump certainly marks a great advance in abdominal surgery, for the reason that by it general and local infection, hernia, and eventrations are avoided; but this treatment cannot always be followed, and it often happens that special circumstances connected with the pedicles require an extra-peritoneal operation (Hegar and Kaltenbach).

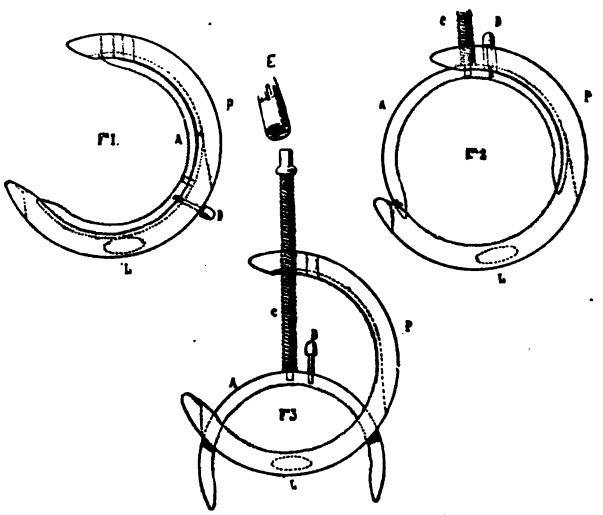
Lawson Tait advocates this method of treatment when the pedicle is very soft and there is danger of secondary hemorrhage when the vessels are cut by the silk threads.[1] Other operators, such as Thomas Keith, employ the clamp provisionally while cutting the pedicle with the cautery, and after cauterizing anew the cut surface leave the stump in the peritoneal cavity without any kind of ligature. Aug. Martin also believes that in certain ovariotomies the stump must be secured above the abdominal wall, and recommends the methods of Hegar, Spencer Wells, and Olshausen.[2]

In speaking of extra-peritoneal treatment of the pedicle S. Pozzi says: "In spite of this, however, this method should still be followed when at the same time that an ovarian cyst is being operated upon a prolapsus or pronounced retroflexion of the uterus has to be combated, a gastro-hysteropexy being thus at the same time obtained." Dr. Paul F. Mundé, in his interesting article on "Surgical Treatment of Retroflexion and Prolapsus of the Uterus," mentions that, according to Kelly, this operation should be called hysterorrhaphy.[3] The attachment of the stump above the abdominal wall is generally effected by means of elastic ligatures, and with two needles skewering it crosswise. The points of these needles are afterward cut, and under each of their ends are placed rolls of iodoform gauze in order to protect the tissues.

Better than the needles already referred to are the pins used by other operators, which are furnished with a kind of head with two flat sides, and with a flat sheath to cover the point after piercing the pedicle. But neither the one nor the other offers sufficient resistance to counteract the tendency of the pedicle to go inward, and they, besides, sometimes wound the skin, while if the pedicle be too far back they hurt the borders of the incision and retard its subsequent healing.

As far back as 1852, E. Martin spoke of extra-peritoneal treatment by means of a screw; in 1858, Hutchinson invented a clamp which was immediately accepted by such eminent men as Spencer Wells, Atlee, Wilde, Koeberle, Hegar, and Kaltenbach. Other operators used Cintract's serre-nœud, and lastly, Clay and Baker Brown invented a cautery-clamp. Although Stilling in Germany, in 1841, and Duffin in England, in 1850, returned to the old method of intra-peritoneal treatment, it did not become general till the year 1880, notwithstanding that it was frequently recommended by Sir Spencer Wells.

The number of these clamps is considerable, and I may venture to state that the majority of gynecologists have got a model of their own made, and some, like Spencer Wells, as many as three. Those of Küchenmeister, Billroth, Atlee, Wilde, T. G. Thomas, Koeberle, Dawson, Lloyd Roberts, Lawson Tait, and some others, are so well known that I need not describe them; I shall simply state that the greater number of them are parallel clamps, but as the pedicle is generally more or less round in form, its tissues are lacerated, while the force with which they are held is unequal in different



Clamp No. 1.

places. Those which grasp the pedicule circularly are the best; but as it has been difficult to obtain this result from the simple use of two rings, other contrivances more or less ingenious have been added which render them very large, heavy, and clumsy. With the exception of Lawson Tait's, I consider them all difficult to be used.

The clamp No. 1, which I have the honor to submit to the notice of gynecologists, is composed of two concentric arcs of circles (Fig. 1), the breaches or interruptions in which are about one-third of their complete circumferences, and these breaches permit of the introduction of pedicles of extraordinary size, notwithstanding the smallness of the instrument. The button D passes through P until the inner arc A closes the circle (Fig. 2); the screw C is then attached, and working by means of the key E, pushes the arc A through the body of the outer arc until the pedicle is subjected to the necessary amount of pressure. The oval piece L stops at the proper time the further passage of the arc A, and prevents the pedicle from protruding between the plates forming the arcs. This simple contrivance is very light in weight, and could be still lighter by being made of aluminium; it is very aseptic, and permits the wound in the abdomen to be easily stitched, by maintaining the

[1] The Medical Record, May 3, 1890.
[2] Traité clinique de Maladies des Femmes.
[3] The American Journal of Obstetrics, November, 1891.

pedicle at the proper height, and sufficiently immovable to allow the wound to heal.

Although in ovariotomy it is not usual to treat the pedicle outside of the abdomen, in hysterectomy, on the contrary, very few operators leave the stump inside of the pelvic peritoneal cavity.

The reason of this, in my opinion, is that in ovariotomy the discharge from the pedicle is not very great, and reabsorption is more easily obtained, while in supra-vaginal uterine amputations the discharge is very copious and rapid, and reabsorption is not easily arrived at. The holding of the same, or similar opinions, has doubtless caused A. Martin to adopt the prophylactic system of drainage by means of a cross tube inserted in the cul-de-sac of Douglas, which he leaves in the vagina for three or four days after the operation.[1]

Inter-peritoneal treatment, according to the technique of Schröder, is little used, because it exposes the patients to infection and increases mortality among them.

In most cases of hysterectomy the pedicle is treated by the extra-peritoneal method, as practised in different ways by Hegar, Wölfler, Hacker, Sänger, Bandenheuer, and Kleeberg, of Odessa. These methods have reason on their side and show more favorable results than any others. But no matter what method may be employed, all operators have to use a provisional elastic ligature to prevent hemorrhage during the operation. Such a proceeding is the same as that followed in general surgery in amputation or disarticulation of the extremities.

Both provisional and final ligatures are obtained by knotting the rubber tube with itself, or with thick silk threads, and transfixing or skewering the pedicle with two large pins, in the same manner as in ovariotomy. Some gynecologists have invented forceps and ligateurs, the former serving to hold the ends of the ligatures while being tied with silk thread, and the latter, like those of Pozzi and Segond, to make the tube exercise a permanent constriction. Walcher uses for the same object an agrafe, which with a pincers holds the ends of the ligature.

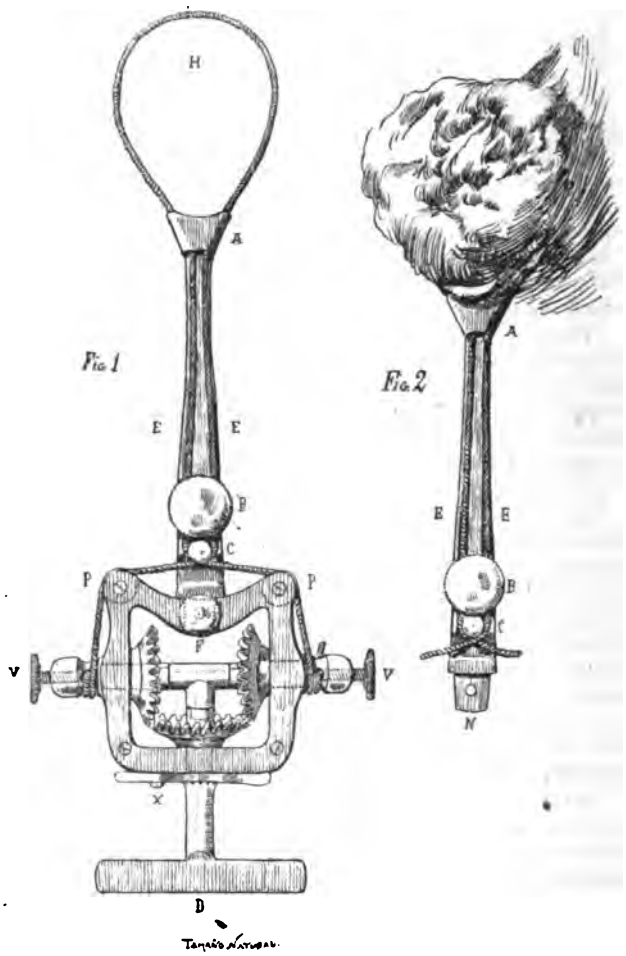
These instruments solely serve to firmly hold the ligatures, and by no means to grasp and hold the pedicle. The different serre-nœuds and constrictors known are not used either, for they are not well adapted for making ligatures of any description.

With my clamp No. 2, these ligatures can be made as rapidly and easily as may be desired. The constriction is effected, no matter how distant and narrow may be the spot where it may be desirable to locate the ligature, and this ligature may be slackened, tightened, or removed afterward as much as may be requisite without hurting the edges of the wound, or touching them too much either with the fingers or the instruments in loosening or cutting the knots. The ligateur also serves first to hold the uterus in an immovable position during the operation, and afterward to hold the permanent ligature by maintaining the pedicle in a proper position and hindering it from returning to the peritoneal cavity.

This clamp is also very useful in the "Ventro-Fixation Method," in which the pedicle, through its shortness or thickness, cannot be made to protrude from the abdomen. In this method Kleeberg, of Odessa, was the first to use the elastic ligature, letting the stump return to its place in the pelvis, and leaving the extremities of the tube in the wound to serve as connections and drains. Péan employs a forceps, which serves to compress the stump and to act as drainers.

In the systems of Wölfler, Hacker, and Sänger—the latter being particularly happy in his modifications of those of Schröder and Hegar—this clamp is of great utility, for it compresses and holds the pedicle in the desired position while producing drainage.

In Fig. 1 the clamp is shown ready for constriction. The pedicle or uterus having been encircled by one or two turns—according to circumstances—of the elastic cord, the loop H is formed, the two ends of the cord pass through the mouth A of the fixateur, follow the direction E E, and passing under the screw B cross each other under the button C, and are rove on the pulleys P P and afterward coiled on the axes V V, which, by means of the handle D, put in motion the three cog-wheels of the inside, and these, being checked by the spring X, cannot by recoiling slacken the hold of the loop H when the hand of the operator is removed from D. When the constriction is effected the ligature is held by turning the screw B, and the fixateur is disattached from the clamp by giving a contrary turn to the the screw F. The opening A remains in close proximity to the stump (Fig. 2) and the



Clamp No. 2.

cords E E, held by the screw B at the button C. The end N is that which is attached to the clamp. The length of the ligature may be from two centimetres upward, according to the requirements of the operation.

As will be seen, this instrument serves as constrictor and ligateur of the pedicle, and allows of the use of various ligatures if sufficient ligateurs are to be had. In the vaginal treatment of some fibroids and polypi it is of great service, and the rubber cord can be changed for a wire or écraseur, thus allowing the section to be made without difficulty.

I have had made some ligatures of fine, soft, galvanized wire, which are seen in the diagrams, from which wire very flexible cords are fashioned, which, though sufficiently thick to be inserted into distant parts of the womb, are much more ductile and strong than any other class of wire employed. In like manner it can be used for the galvanic loop, by employing a wire with an insulating substance, and being provided with a hard-rubber ligateur.

From the simplicity of the mechanism of its *fixatem* it is thoroughly aseptic, while being very easily cleaned, and is particularly adapted for those operations in which it is at the same time necessary to firmly grasp the stump and to hold it in an immovable position.

[1] Martin: Loc. cit.

REMARKS ON FUNCTIONAL PARALYSES.[1]

By A. PESKIND, M.D.,

PROFESSOR OF PATHOLOGY MEDICAL DEPARTMENT UNIVERSITY OF WOOSTER; VISITING PHYSICIAN TO THE CLEVELAND CITY HOSPITAL, CLEVELAND, O.

As three very peculiar cases, characterized by functional paralyses, have occurred to me within the last two months, I beg to offer their report, giving the reasons which guided me to class these cases under the category of functional paralyses.

CASE I.—Mrs. V——, aged thirty-three, was admitted to the City Hospital as a paralytic, a result of cerebral apoplexy, which occurred a week previous. This was the only history obtainable from those who brought her there.

On admission Mrs. V—— represented a true picture of the stated affection. Left hemiplegia, right facial paralysis, aphasia, complete aphonia with deviation of the tongue to the paralyzed side, were all well pronounced. The patient could see and hear everything; the eyes were normal to all appearance, but no sound could be produced by the patient. The physiognomy of the patient was highly expressive of that morbid mystery known as hysteria. This physiognomy and the total aphonia urged me to look more into the case. The reflexes of the paralyzed leg were first examined, and here a striking peculiarity was observed. The patient was at first told to bend her knee. Of course she could not do it. On tickling the sole of the foot the paralyzed leg would draw up nearly at right angles to the bed, and then it would resume, slowly or quickly, its former position, irrespective of the amount of the irritation employed. On placing the leg so that the heel touched the sacrum the patient would voluntarily extend her leg. The suspicion thus having increased, I contemplated another test. I addressed myself to the resident physician, who accompanied me, and directed my eyes so that the patient was still within the field of my vision, although I appeared to look at a remote object. I spoke of the condition of the patient, about her age, which renders the case so much more serious and deserving due consideration. That prompt and active measures are imperatively needed to bring about the prompt cure, which is the only chance to obviate her becoming a helpless cripple. Mrs. V—— listened to my sympathetic remarks with absorbing attention, so that the wrinkled brow was smoothed and every vestige of paralytic distortion vanished. I stopped and all went back as it was, visibly to all those present. My patient needed encouragement and I promised her that she should talk next morning. Two grains of quinine and $\frac{1}{60}$ of a grain of strychnine were ordered to be given, dry on the tongue, every two or three hours. At my next morning's visit my patient obeyed my orders. She answered distinctly, though with a thick tongue, every question I put to her. I then took her arm and commenced to promenade the spacious ward. At first Mrs. V—— dragged her limb as if it was a dead mass; soon, however, the leg was drawn up a little, and when I increased my speed the patient began to limp on the sound leg, keeping the paralyzed one flexed. From that day on Mrs. V—— was ordered to walk about, supported by a chair. So she did. Again and again have I noticed, to which I have called the attention of the attendants, the drawn features disappear when the patient was not aware that she was noticed. I had no chance to watch her during sleep. At the expiration of ten days after admission I obtained a battery for the hospital and brought it to try on Mrs. V——. Even before I opened the battery Mrs. V——, all at once, turned perfectly blue, a clammy sweat covered her whole body, so that I was alarmed at her appearance. I tried to quiet her, and after some time I applied the battery for a few minutes. The reflexes were all normal. Next morning Mrs. V—— said she felt better, and requested her discharge from the hospital. This of course was granted her. She walked, guided by an inmate of the hospital, to the street-car, and again from the car to her residence, a distance of several hundred feet, while about ten days before she was entirely helpless. I subsequently learned that Mrs. V—— was not doing well, so I went to see her. She was worse, indeed. Both legs were œdematous, her movements were much weaker than when she left us. She said the nurses looked upon her as a cheat, and she did not like a city hospital. I inquired at the same time of the friends about Mrs. V——'s former state of health, and I learned that she always was very nervous, and went to doctors. I visited her last attending physician who treated her before the paralytic stroke. The doctor said that the patient suffered from tachycardia, congestion of the liver, and œdema of the legs. The treatment consisted of blue mass, iron, quinine, and digitalis. The nervous element was the most troublesome in the case. There was no organic lesion of the heart. With such premises what must be the conclusion? I, for my part, diagnosed this case as one of functional paralyses, notwithstanding the existence of a facial paralysis. My time is, I am afraid, too much spent on this case, as I wish to report two more cases.

CASE II.—Mrs. L—— came to consult me about an amblyopia of about six months' duration. This was the history, given August 8th:

About seven months ago Mrs. L—— had metrorrhagia, which lasted about six weeks. She had always been regular prior to that for a period of two years, when her youngest child was weaned, and it was the first time such a flowing ever happened to her. Mrs. L—— did not know whether the metrorrhagia was caused by an abortion or not Her physician, she said, did not think so. When the hemorrhage was diminishing a fever developed. At this time a left facial paralysis made its appearance, with aphasia, amblyopia, and paralysis of the tongue on the left side, the tongue deviating laterally left on protrusion. These phenomena, excepting the amblyopia, disappeared in a few days. About six weeks after the facial paralysis passed off a right brachial monoplegia appeared. This trouble required six weeks of treatment to leave her. On examination I have noticed some queer conditions about this case. She complained of bitemporal hemianopsia, with indistinct central vision; at times the patient could see, but could not locate things. The ophthalmoscope revealed a pale disc, with no other structural changes. There was no disturbance of color perception. The patient was then directed to look at a certain spot, with my open hands spread before her eyes. She saw something. I closed my hand, she still thought that she saw something, perhaps the hand, but she did not know where it was. I opened the index-finger, she saw the index-finger. The middle finger was opened, she saw two. On opening also the ring-finger, the index-finger alone was seen, but not the other two. When I placed the middle finger in place of the index, the middle finger became invisible; the thumb, however, placed where the index was seen, was visible. I requested the patient to write my name; she dotted the "i" on the right place, though she never wrote my name before. So she dotted correctly every "i" of such words as emancipation, etc. When I called her attention to this, and dictated her to write, "The committee recommended to introduce cordiality," the change in writing was conspicuous. The method of directing her writing is extremely peculiar as the paper shows it. I shall not repeat all the devices used to confuse her, but I was convinced that Mrs. L—— saw more and better than she would have us know. Again, she could not see an object placed within the field of vision on the temporal side, when the object was near the temporal side of the eye. The same object, however, she thought she saw when it was at the, probably, extreme limit of her field of vision on the temporal side, when I first remarked that "I thought she had a far-sighted eye," and carried the object farther away. The cutaneous sen-

[1] Read before the Cuyahoga County Medical Society, Thursday, October 1, 1891.

sibility was tested. The two points of the æsthesiometer were passed through the skin of her forearm, and she only felt one single slight pricking, though the points were over three inches apart. The same two points on the left side of the tongue felt like two points, while they felt like three on the right side. The diagnosis was made, and I promised a cure to my patient as far as eyesight was concerned.

I subsequently wrote to her family physician out West, whence the patient had come to be treated for her trouble, and the doctor was very kind indeed to answer me promptly about the case. An abstract of the letter, verbally, tells us that "Mrs. L——, aged thirty-two, had been treated by another physician for seventeen days for a profuse metrorrhagia" (when the writer was called, and) "in four days succeeded in stopping the hemorrhage." At the next menstrual period a fresh metrorrhagia appeared, which finally stopped "after fourteen or fifteen days of the use of tampons, styptics," etc. Mrs. L—— "was left utterly prostrated and almost exsanguinated. Slow, low fever sprang up, and one morning I found her with almost complete facial paralysis on left side. Tongue was completely beyond control and seemed very thick. Eyes were staring and mouth drawn. . . ." Gradually these symptoms improved, "but eyes never became normal. . . ." Then, "one day, while sitting on her porch, she felt that she could not use her right arm. . . . Her mind has been much affected. . . . Extremely nervous, low-spirited, giving way to tears easily. . . ."

I omitted to state that on examination of the generative organs a diffuse pelvic cellulitis, with a fixed, retroflexed uterus, with a gaping os were detected, and probably explain the character of the low fever the patient suffered from at the beginning of her present ailment.

Let us reason about the pathological coincidences in this case. We have here a case of paralysis of a queerly crossed kind. Left facial palsy with aphasia—something very unusual. An amblyopia also of a peculiar manifestation. Then follows a monoplegia. Where is the seat of lesion? These disseminated lesions could not be due to basic affections of gross character; neither atheroma of the circle of Willis nor a basic growth could be admitted in this case with such a sudden onset. Pressure from effusion is not plausible, because more nerves would have been involved than the optic (or corpora quadrigemina) with the facial; nor would the optic disturbances have lasted longer than the facial paralysis. Subsequently a brachial monoplegia develops, which contends against such a supposition. Was all this due to a cortical lesion? This does not seem to be probable; the lesions would be too diffuse and affecting now the frontal and occipital lobes together. The one is cured in a few days, the other remains unameliorated for months. Then again appears a brachial monoplegia—a frontal lesion again. An intranuclear disturbance does not explain the symptoms. Of course the vascular system may be the seat of trouble, but this cannot be of gross structural alterations. Then let us analyze the history of the case.

We have here a patient "whose mind has been much affected, . . . extremely nervous, . . . giving way to tears easily;" a lady, who can cry whenever she deems it necessary or desirable; a lady who is social, loves fashionable literature, one who needs doctors, numbers of them, to stop her metrorrhagia; a lady comparatively young, anæsthetic, hyperæsthetic, is feverish, has a pelvic cellulitis, and the fever is of a low type; is stricken with a left facial paralysis, which disappears soon, then an arm becomes involved which requires six weeks to get well, which, however, does not disfigure the face like the facial paralysis did. Now, all this is nothing compared with loss of sight, though no one can see that the patient cannot see, though she may see. The diagnosis was made. My prognosis was given as extremely favorable, in spite of the patient's deep despair.

A word as to the treatment of this case. What was left for me to contend with was to restore sight to eyes that could see, and build up a run-down system. While the general treatment was the most important, the restoration of the eyesight was the hardest task. The patient was ordered to bed for a week, so as to give her rest as much as possible. Blistering plasters were applied behind the ears, and the eyes ordered to be kept closed. Internally Parrish's chemical food, tinct. strophanthus, and one-thirtieth grain of strychnine sulphate were given. The patient was getting better. At the end of the week the patient was ordered to walk up to my office, a distance of several hundred feet, all riding was forbidden. The general improvement became soon apparent, though vision was still imperfect. One day while talking to the patient she made a remark that she feels her jaw becoming paralyzed, and she began moving it as if the jaw would be dislocated. By a little manipulating the jaw was all right up again.

Central galvanization was also used, and sudden interruptions of the current produced mild shocks, which appeared to have a favorable influence. The patient was also told that if such treatment be ineffective, I should have to apply something over her temples, which would leave a very slight disfiguration. To this my patient objected as a woman can: "Doctor, I will not let you mar my beauty," was the reply, in a voice which betrayed both the hypocrite and the humorist. "Heaven knows that I am trying my best not to need to have recourse to such means," was my earnest response.

N.B.—The patient's eyesight is much improved. She copies now from printed matter in small type without any mistakes. Her pelvic trouble is still great, though nothing special has been done for it, as the environments where the patient stops are not favorable for the treatment.

CASE III.—Miss B—— was admitted to the City Hospital January 11, 1882. Her history of that date read: Age, thirty-seven; nativity, Ireland; housewife. The cause of her admission is recorded that she was "sick." In the MEDICAL RECORD of October 21, 1889, the diagnosis is stated to be made: "Chronic rheumatism and spinal disease." Her present history, taken August 3d, reads:

Miss B——, aged forty-three; nativity, Ireland; by her former occupation a cook; single; menopause for some time past. Up to fourteen years ago her health was very good; no previous sickness. Fourteen years ago she slipped on an icy sidewalk, fell striking her back on a post. For nine following years her pains grew worse. Four years ago the paralysis of the lower limbs, followed by paralysis of the right arm and a hunch of the right side of the chest rendered the patient bedridden. No urinary nor bowel trouble ever happened beyond a slight constipation. She would not eat any solid food, though she has a fair appetite, but subsists on a diet consisting of milk, beef-tea, eggnog, etc. She thought some time ago that the bed was not soft enough, and the kind nurse provided for her an air bed.

Miss B——, an invalid for many years, is still well preserved. Her face is full, and she is quite corpulent. Both lower limbs are helplessly stretched, with muscles in extreme contracture, so as to throw the feet in an equino-valgus position. There is a lateral deviation of the spine, and the right side of the chest is so deformed that the whole of the thoracic viscera seem as if incarcerated in that side of the chest, the bulging of which just fills up the triangular space formed by the bedding and the patient's body. The right arm is paralyzed with contracture of the muscles of the fingers and wrist. No visceral lesions are detectable. While Miss B——'s limbs are extremely stretched in bed, when she is placed on a stool they drop, bending at the knee as if by their own weight.

The appearance of the woman, her peculiar position in bed, the dropping of the legs while sitting on a chair, urged a closer inquiry in the case regardless of the recorded diagnosis. No battery was at hand at first, so I

had to be satisfied with the examination of the reflexes. No knee reflex was obtainable, as the muscular resistance was too great. There was a very marked ankle clonus, especially of the right leg. It is through tickling and pinching the soles of the feet that my suspicions became more corroborated. These peripheral irritations have thwarted all her resistances. On successive and repeated irritations, the flexings of the legs and their extensions followed so quickly that it became amusing to see the patient kick whenever she thought that she was going to be pricked. Frequently she would draw up her legs and hold them in this position to avoid the pricking. I told her, however, beforehand, that the instrument I used would cause such reactions, so as not to let her think that I wished to detect fraud by it. The instrument I used was nothing else than a nail-file. This all went to prove that Miss B—— could do more than she would. I then forcibly flexed the leg on the thigh. The leg would straighten at once as soon as I let my hands off. Doing the same, but holding the leg for a few minutes and speaking attentively to the attendants, or asking the patient some questions, the leg would remain flexed for many minutes after I took my hands away.

My diagnosis was that we have a case of functional paresis, the result of weakening of the ligaments from overstretching them by contractures of years' standing.

Let us analyze this case. We have here a woman who fell some fourteen years ago. Five years subsequently she comes to the city infirmary "sick;" there her sick spells were getting worse and the limbs began to give way. Nine years after the slight trauma she is a bedridden paralytic. Is there a progressive spinal lesion of such long duration and such large extent, with so little disturbances of nutritive processes? Are these phenomena and the result obtained through examination consistent with any distinct lesion generally designated as organic? Massage and a little rough handling free the contractures a little in one day. In a few days improvement was marked. Assisted by my friend Dr. Crile, in the presence of Dr. Straight and the resident physicians, an anæsthetic was administered to Miss B——. Every distortion of the body vanished. Before the patient regained complete consciousness the knee reflexes were tried and responded normally. In the meantime the nurses told the patient what I thought about her case, and I felt it one morning. This was my best lesson of woman's wrath. I considered myself much safer to see her paralyzed, and my prophecy about the future of Miss B—— not yet realized.

About the ankle clonus in this case, I think it was due to the extremely powerful resistance of the muscles of the legs and relaxation of the ligaments.

I hereby show you the photographs taken with a detective camera, after my opinion had been disclosed to the patient. The improvement in the position of the fingers is shown, which were in extreme contracture before. The rest speaks for itself.

Thus I have revealed my reasons for the diagnosis made in the three cited cases, characterized by a peculiar loss of muscular mobility. What, may one ask, do we understand by a functional paralysis? I, for my part, always consider a functional disturbance of any kind the result or results of material changes brought about in certain structures, which changes, undoubtedly molecular, are too minute for our direct observation and physical investigation, but which are conceivable and have deductively a plausible existence. In other words, the difference between an organic, properly so called, and a functional affection seems to be more of quantity, the quality depending on the peculiar site of the lesion or area involved. Therefore by a functional paralysis such a one is considered where the abolishment of muscular function is caused by changes, probably in the nervous system, which changes are mechanically invisible. To concede that such changes are possible we need only reflect on the power of matter in its most attenuated state. When worlds can appear as a mere *inanimate* speck on the background of the photographer's camera, and this scarcely visible speck still represents every depression and elevation of the immense worlds, shades and lights are shown. The memory is so much like a photographic impression that the simile between the two still more strengthens the supposition of its material existence. When everything is favorable—the proper subject, the exact light, the correct focus, and the camera in good working order—a picture is obtained which properly represents the real in a state of rest.

When the subject is unstable, the impression is unstable and the image is confused, often beyond recognition. So with memory. When all coincidences are favorable, the mental state is clear, and the subject is a proper one, a mental image or impression is obtained which can be reprinted or recalled from the labyrinth of the nervous edifice. These memorizable impressions need a place having dimensions. When the mind is preoccupied with other ideas, or the subject is not sufficiently stable, the resultant image is confusion—nothing to be made out of it, all memory is lost. This is why the insane remembers things that happened to him before his alienated state, recalls impressions of long past events with, at times, astonishing vividness, while occurrences of to-day find no place in his memory, either on account of the instability of the presenting subject and lack of the proper attention —the time needed for the impression to be formed; or there is a dark subject shading the focus, and covers with a fog of forgetfulness all things. It is not my object to speculate about the seat of mind, but, were the powers of matter known, we would have more of the wonderful and less of the miraculous, and many so-called functional disturbances would have—I hope, will have, in a near future — a more comprehensive meaning and science would take up their course.

Well, then, where is the seat of lesion? A pertinent question. I do not blush to admit my ignorance, I am not ashamed to say that I have not mastered the functions of the nervous system to that extent. I have, however, done something on this subject, and I shall take the liberty to divulge my speculations. It would seem that in the great majority of these cases in which the functional disturbances are such as to appear beyond the control of the individual, that these disturbances are in the conducting paths of the various parts of the nervous system, the function of which is to produce effects designated as mental actions. It is through the disturbances of these paths that these perversions arise through them. Conscious impressions are deflected from the seat of the will; unconscious impressions are conveyed to the seat of consciousness; usual involuntary actions become voluntary. That even these mental states must have representative seats in our nervous system we infer from this very fact, that some neurotics can cause, by their unconscious wills, to appear involuntary phenomena. Of course these paths are not the only ones always affected. In some cases other areas are involved, while in still others there seem to spring up morbid changes, manifesting themselves by peculiar irritabilities, as the result of practice of vicious habits, or irritating some special spot either consciously or unconsciously, which result in special lesions with the production of special functional perturbations. That this trouble must be in the nervous system, and probably a result of some local perversions of nutrition, seems beyond doubt. The manifestations of the effects of such perversions is what we meet in practice. The motor disturbances are too well known. The sensory perversions are characteristic of this affection. The suddenly benumbed foot, that the patient is afraid to move for fear she will fall, not feeling her steps; the dead arm, the startling back, the splitting headache, are all too common complaints. The sympathetic nervous system is almost always involved, and, perhaps, through its influences on the nutritive processes the sensory organs become implicated. Through it we have often to encounter most alarming and dreadful scenes. Through

it the ovaries swell, the lungs bleed, the heart throbs, the stomach bloats, the legs swell, the tongue becomes thick, so that it chokes the patient. Through it the pale face, the cold sweat, and the hot chill.

The so-called neurotics are most frequently affected by these functional disturbances. The grand type, which cannot be classed among the impostors, are, as a rule, hereditary neurotics, and the least irritation is sufficient to shatter their nervous stability, to affect their nutritive processes, and thereby still more add injury to the mischief. From early childhood can be traced its development. Exquisitely false presentations, abnormal wills, perverted consciousness, are common to all these cases, even in apparent health. All deb litating influences and disordered general nutrition, prolonged peripheral irritations, will excite perturbations and interrupt the harmony in nervous action. The latter conditions are the chief causal factors in cases where the neuroses are acquired. Vicious habits, as said above, have much to do with its development. The difference between the hereditary neurotic and the one who has acquired it is extremely great. In the latter class will and consciousness are seldom if ever affected.

The three cited cases illustrate much of what has been said, and, undoubtedly, every other case would show some other point of departure from normal nerve-action. Both the first and second cases are high-strung neuroties from their birth, if not prior to that. Mrs. V—— represents the highest type of mental perversion, manifested by disturbances of function. Mrs. L—— was of a mixed type. She made a good deal of all for the sake of making them so. Much, however, has been done unconsciously, as if on suggestions, and was probably due to hereditary vice, and peripheral irritations from the pelvic viscera. It is Miss B——'s case which illustrates a type of conscious aberration from healthy nervous action, with the production, voluntarily, of functional perturbation, which may remain permanent as a result of secondary changes in the nervous system. Miss B——, a maiden, past her second sweet sixteen, worries about her burdensome life, broods over her future, how to avoid the *ennui* of the coming time, when the summer of life has fled. As a cook her tastes, perhaps, become ancient, the younger will displace her. She would and wished better to be crippled and bedridden than alone and forsaken in the world. To get that way is not an easy task. Time, however, has wrought greater wonders. A slight trauma is sufficiently suggestive. The paralysis develops gradually from voluntary contractures of the muscles and subsequent relaxation of the ligaments, which has also caused the hunch. With such a hypothesis of the pathology of these neuroses, what would one offer as a prognostic promise?

To be able to make a prognosis in any disease one must be well acquainted with the nature of the malady, its pathology must be thoroughly understood, the symptoms mastered, the knowledge of the cause, and the duration acquired by experience, observation, or study, as well as the effects of treatment on the disease. These are the reasons why a positive prognosis is so difficult to state in these cases—these neuroses being so varied in kind, with so many differences in their pathological manifestations, that broad prognostic rules are impossible. This, though, can be said, that the majority of the cases get well through proper care, especially so when all exciting causes are removable. Some, however, with the best of management and with the greatest trials, are only ameliorated, and relapses are too frequent. Still others, in spite of all efforts, grow from bad to worse, and fall victims to the disease; nevertheless post mortem no special pathological change may be demonstrable. It would seem that the cases which are characterized by functional disturbances, unconsciously produced, have a better chance than the cases with conscious volitional perversions. While in the first proper and steady management will bring about a progressive amelioration, with the latter class the will has to be brought to subjugation by strange stratagems to overcome the resistance of the patient. The too frequent relapses, however, render the prognosis in the majority of cases very gloomy.

When all I knew of disease and its treatment was the dictum of the text-book, nothing seemed as trifling to combat as the functional neuroses, of which hysteria is an illustrating type. Why, the devil's tincture and everything offensive to olfactus would be a panacea. Antispasmodics and narcotics are the chief remedies. In fact, a great many look upon these neuroses with airs of satirical lightness. Unfortunately, however, for the practitioner, as well as for the patient, the neurotics are hard cases to handle, much harder than I ever anticipated before I came in contact with them. Very often the patient with the vapors possesses high intelligence, is of a refined character, too often really a pitiful creature and a great sufferer, even by her own self-wrought tortures. Although very often it is a mere "comedy, for there is nothing of a very serious or gloomy character in all these events," as the illustrious Charcot tells us, this great man also hints of some cases which terminated fatally, and which do terminate so every day. I think nothing is so trying as to treat a serious form of these neuroses. Not only on account of the severity of the disease, as of the circumstances so often complicating it. Indeed, what is the method of treatment of such cases? What is the object one aims at when he wants to cure such a case? The normal transmission of impressions, re-establishment of healthy nerve-action, restoration of general health, and to produce regeneration of wasted or altered nerve-tissue, are all required. In other words, the mental and corporeal aberrations must be attended to. This is why success is not always obtained by the usual method of treatment. Many neurologists have hinted at, and even insisted on, the value of training these cases to normal nerve-action. It is through the attacking of the effect that the offending cause can be expected to be removed. It seems that to win success in the treatment of these cases one must be a psychologist. Physiological psychology must be his guide—a psychology which is not only scientifically stuffed with speculative suggestions, having no real representation in the actual universe, but one based on practice and experience. To master this is synonymous with mastering of the mind, something apparently impossible. Much, however, can be picked up by observation and study to utilize for the relief of these sufferers and keep them doing well, if we cannot cure them. The symptoms must be studied carefully and the points of aberration noted, watched, and adroitly attacked. The diverse perversions of mental action must be studied in every case. The most essential part is, however, to gain the patient's confidence, which is easily obtained when one knows what he has to do. If the patient will try to frustrate all efforts for the mere sake of spite, the task becomes an extremely difficult one, almost insurmountable. Even abominable mysticism has at times to be resorted to, especially in those cases where the disclosure of the truth would be an insult, if not a death blow to all efforts. To tell a lady that she is not paralyzed when her limbs are dead like a mountain, or to tell her that she can see when she assures you of her blindness, is much worse than an insult; it is equal to calling her an impostor, and it means you do not understand her—you cannot cure her. Regardless of cold-blooded ethics, to be successful it is unavoidable to admit the awfulness of those dire, dreadful, deadly, inexpressible, fulminating, stormy, suffocating, startling, smothering sensations, but they must be curable. Doubt does not go in these cases. One must be sure. Nor is there wisdom in the teaching of self-possession, self-control, or in the urging of not doing this and avoiding that. Let the feelings be expressed. When she feels like crying, tell her to scream, the louder the better. When the muscles twitch, let them go—no holding back. The more an enemy is shunned the oftener he is met, proves very often to be a useful hint. All this leads to victory in the majority of cases. In the same time steadily, persever-

ingly, persistently, even insistingly, timely and opportune, habituate the patient to confront and to tolerate the presence of the object she abhorred, and to do what she thinks she cannot do. All silently but intentively. It is in these cases where often the best kindness is severity, but the severity must be kindness. As a physician, one must know how to be true to his cause, even when degrading himself for a while in ugly mysticism. Let it be the physician's touch, his words, his suggestions, his drugs have accomplished everything; it is the patient who must do the work, although unaware of it. It is a severe struggle, and the reward is too often insignificant, if at all. Then one must fight against numbers of obstacles. Sympathetic friends and officious nurses are the most conspicuous, often the removal of their influence is sufficient to cure the patient. This, however, is not always possible, and the method of treatment becomes so much more complicated and difficult.

The hygienic treatment is of extreme importance. In this class of neurotics rest in bed is to increase the patient's infirmities, but over-exertion is perilous. Attention to cutaneous activity is of extreme importance. Baths, followed by thorough friction, do much good. Out-door life, even if this be sitting on the porch, is better than the bed. The rocking-chair is a good piece of furniture if the carriage cannot be obtained or the patient's state of health prevents its use. Something to do manually and mentally is invigorating, and knowing the patient's tastes and abilities, this can easily be accomplished. The diet must be nourishing, and often the patient will consume more on a fly than at the table, and opportunities must be provided that she may get something nourishing anytime and just handy. Medicinal agents have also their place, and are too frequently much needed. We have here to restore the tone of a depraved nervous system, and, as a rule, general malnutrition. While in the mild forms of these neuroses, characterized by congestive phenomena of the internal viscera, the bromides, chloral, valerianates, and similar drugs are extremely useful to tide over the critical moments, for such are the whole manifestations of the disease; in the form of neuroses under consideration these drugs are worse than useless as far as their curative power is concerned. If the patient complains of restlessness, and restless are they always, with nervous feelings, the best calmative medicine is giving nothing. This, however, cannot be carried out too rigidly. Friends have something to say. The erethism may be so great as to lead to exhaustion, then something has to be given to quiet the patient. I think there is no drug as useful as alcohol administered in the form of medicinal tinctures or malt. Compound tincture of cardamom has done me good service. Occasionally a dose of chloralamid may be dissolved in the alcoholic medicine and will aid much to procure rest. Of course great care is necessary in the administration of any form of alcohol; the nervous temperament of the patient, the chronicity of the disease, require thoughtful consideration, and a habit may easily be acquired which would be worse than the disease itself. This, however, can be obviated very easily. Some encouraging and discouraging remarks will help the patient to leave off the quieting medicine. Habits are generally acquired through the fact that there is a knowledge that a certain thing is the thing which can relieve the desire or distress.

It is the restorative medicines one must rely upon, agents which are not depressants, but exaltants of cellular activity. Strychnine, caffein, quinine, iron, are the most useful drugs. They are not only the curative agents, but they are preventives of the most dreaded relapse.

Old Folks in Japan.—In a population of about 40,500,000 in Japan there were, in 1890, 81 persons of 100 years of age, 46 of 101, 26 of 102, 7 of 103, 6 of 104, 1 of 105, 7 of 106, and 3 of 107; in all 177 persons of 100 years of age or older.

AN EXTRAORDINARY EFFORT OF NATURE TO RELIEVE AN INTUSSUSCEPTION.

By EVERETT M. CULVER, M.D.,

NEW YORK.

DR. WEIR'S article in the MEDICAL RECORD of February 13, 1892, "Remarks on Subdiaphragmatic and Rectal Abscesses of Appendical Origin," brings to mind the following remarkable case of the course of an intussusception, which must be instructive to both physicians and surgeons, as the case simulated typhoid fever in some respects, and illustrates how pus may reach up to the under surface of the liver and down to the rectum from the right iliac fossa. As the original disturbance occurred in the appendical region, and is identical in some of the results to Dr. Weir's case, I have amplified the notes, which I have had in my drawer for the past two years.

Ordinary cases of intussusception are not so rare as to be made the subject of journal articles. Had the course of the case reported below been of the usual termination—either of spontaneous cure or operation—there would have been felt some hesitancy in presenting the same without an excuse. The effort taken by nature in this case to relieve an obstruction of the intestine was truly remarkable. If the autopsy of the subject had not been witnessed and vouched for by eight of the writer's colleagues, your reporter would have hesitated in printing, without such confirmation, the statements following in relation thereto. The late patient, whose malady is the subject of this article, was accompanied to the Manhattan General Hospital by his mother (a nurse), who gave the following succinct history, which is abbreviated from the hospital history-book as follows:

Frank M——, aged twenty-one, United States, single; admission October 10, 1889, at 5.30 P.M. While at work was suddenly attacked with cramp-like pains in his abdomen, so severe as to necessitate his leaving his employment. Returning to his home he went to bed, he became steadily worse; and after some days a physician was called who found him vomiting at intervals a greenish fluid. There was some elevation of temperature. At this time there was distinct dulness on percussion over the right iliac fossa, an ill-defined tumor on palpation, also pain and tenderness in that region; bowels constipated. This physician made the diagnosis of a perityphlitic abscess. (An experienced surgeon would have considered the above signs as good evidence of intussusception).

A few days later the abdomen began to swell, and became tympanitic; this continued until it was greatly distended, there was not much tenderness, and but little vomiting—still constipated, temperature a little elevated. Another physician was then called, who declared that the patient had typhoid fever, and administered a purge (?) which caused diarrhœa. Continued to take nourishment—had free movements of bowels, but gradually grew worse. It was then decided to send him to the hospital, where he came in the ambulance.

Examination showed the patient to be very much emaciated and semi-delirious. There was a history from friends of three weeks' sickness as detailed above; tongue dry and brown; pulse dicrotic, 128; temperature, $101\frac{8}{10}$; respiration, 44. There were no physical signs in the chest; the abdomen was retracted, but there was apparently no pain on pressure; spleen and liver dulness was normal, urine normal, speech rambling and incoherent; no diagnosis made.

October 11th.—Fæcal evacuations very soft, of a dark yellow color, very offensive, not accompanied by pain.

October 13th.—The tongue is more moist, takes liquid nourishment, surface blue, extremities cold, pulse very feeble. Mind sluggish and wandering; hands upheld and grasps at invisible objects.

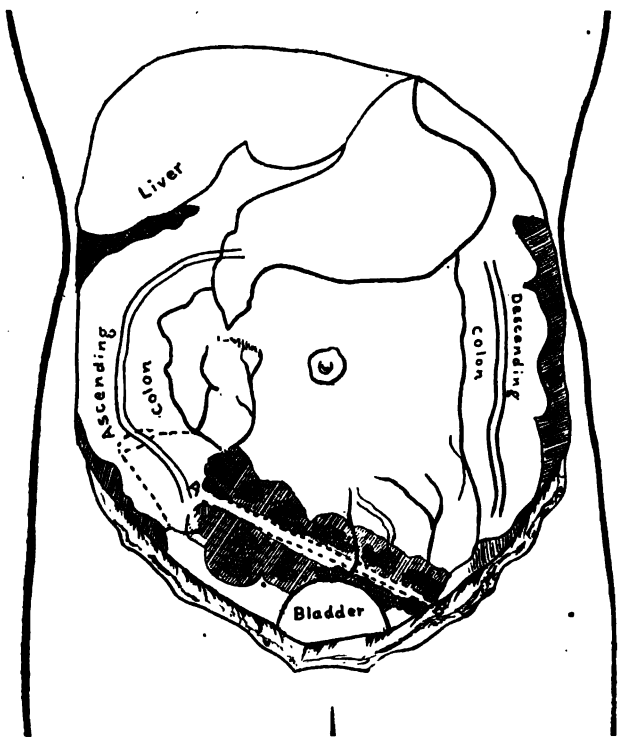
October 15th.—No marked change, pulse more feeble, mind less active, bowels and bladder evacuated involuntarily for past two days.

October 18th.—Became steadily worse, and at 7 A.M. died.

Autopsy—ten hours after death.

Body much emaciated; tongue dry and brown; abdomen retracted. Rigor mortis not marked. On cutting muscles and reflecting same over chest they appeared very dry, dark red, and firm, such as are found in typhoid cases. When the breast-piece was removed the pericardium presented the following remarkable appearance: The whole structure appeared dry, crackling, and so thin as to be transparent, resembling a piece of thin oiled paper. All of the surface markings of the vessels of the heart could be plainly seen through it. The blade of a scalpel was introduced under the anterior surface and the name of the instrument-maker could be read through this membrane. No pericardial fluid and no traces of inflammation.

Heart-muscles dry and red; otherwise apparently normal. Lungs normal; no adhesions; no œdema; they



are bright and glistening, and are filled with air. No signs of hypostatic œdema. Abdomen, no signs of peritonitis on abdominal parietes. The ascending, descending, and transverse portions of the colon were in normal position, only moderately distended with gas. The major part of the small intestine was pinkish, thick, and sodden, contained no gas, and allowed the abdominal wall to sink in. The disease which had destroyed life was then made apparent. The cæcum was in its normal position, but greatly thickened, soft, flabby, and surmounted by a loop of intestine (probably ileum), which was collapsed, and held by a few stringy fibres of soft, new, lymph tissue.

The lower portion of the abdomen contained the interesting features which hereafter claim attention. A dark gangrenous and pultaceous mass spread about a hand's-breath from the right iliac fossa on the one side to the left iliac fossa on the other side, passing and closely connected to the posterior wall of the bladder, and then dipping down into the region of the rectum.

As is customary, the operator first attempted to remove the small intestine by cutting the mesentery between the gut and its attachment to the posterior abdominal walls. When the mesentery was stretched it was seen to be elongated and partly gangrenous about its upper margin, *i.e.*, at the level of the second lumbar vertebra on the left side. The colon on the right side (ascending portion) was therefore raised to sever the mesocolon in order to remove the gut. It was now seen that this portion of the colon, from the cæcum upward about five inches, was thickened, partly gangrenous, and evidently held a loop of intestine, being the sheath of an intussusception from the small intestine passing through the ileo-cæcal valve into the colon. When the mesocolon was divided pus escaped from between its folds, and it was seen that the appendix vermiformis was between the two layers of the meso-colon and had suppurated, the pus burrowing up to the under surface of the liver. The pus in this region was of a bright yellow color, and had made its way upward through the meshes of loose connective tissue that binds the colon by means of its mesocolon to the planes of the pelvic and posterior abdominal fasciæ—this singular situation having been gained by the pus while the patient was in bed. The pus found in other portions of the abdomen was of dark chocolate color, more resembling that from an hepatic abscess. This yellow line of pus reached up as high as the level of the pancreas, and must have burrowed in this region while the patient was in the recumbent position. The remainder of the colon to the middle of the rectum was absolutely empty, containing no fæces and but little moisture. From right to left across the lower part of the abdomen the following was recorded:

Several loops of intestine were somewhat matted together by sticky, new, connective-tissue bands, involving portions of the jejunum and ileum, the contiguous sides being firmly bound together; the whole mass being held in place by soft, new adhesions to the fascia of the pelvis, the ligaments of the bladder, and to the posterior wall of that organ, also to the middle and lower third of the rectum. Great care was required in dissecting out this soft, gangrenous, and stinking mass, but after a time it was accomplished, and the portion so removed was found to consist of the first four inches of the ascending colon and its contents, *i.e.*, an intussusception from the ileum; portions of the small intestine, judged to be the jejunum and ileum; the posterior wall of the bladder, and the middle and lower third of the rectum. On cutting open the colon and its contents there was seen to be an intussusception of the ileum through the valve of Bauhin into the colon, the three thicknesses of the gut firmly adherent and somewhat gangrenous. In the pouch of the cæcum, on its internal lateral surface between the valve and the appendix, was an opening which connected with a piece of adjoining small intestine, the two matted together by adhesions, making a passage from that portion of the ileum which entered the colon by the valve, and which had sloughed off on the lower side of the neck of the intussusception inside of the colon, thus allowing the contents of the gut to flow by the strangulated portion of the intestine into the pouch of the cæcum, and on again into the adherent loop of gut; both the wall of the pouch of the cæcum and the adherent gut having sloughed and ruptured at their contiguous points of contact. An adjacent loop of intestine toward the left had likewise become adherent and had become gangrenous at the point of contact, and this continued with each successive loop until a complete passage for feculent and gangrenous matter had been found, emptying into the middle and lower third of the rectum, so that the contents of the stomach, when expelled into the small intestine, found passage through the small intestine alone, completely avoiding the usual passage by way of the entire length of the colon. This new tract was very plainly seen, and was filled with shreds of gangrenous intestine, pus, and fæcal matter. In dissecting it out from the abdomen it was necessary to include the posterior wall of the bladder. That viscera was otherwise apparently intact, and was nearly filled with pale, clear urine. The pelvic fascia was clear, smooth, and glistening. No caries of the pelvic bones was noted, and there was no evidence of peritonitis on the abdominal parietes. The other organs in the abdominal cavity were normal. The kidneys were of good size and color, with no observable (gross) lesion.

What is most remarkable is the entire freedom from peritonitis, since the abdomen contained such a mass of gangrenous sloughing tissues and large quantities of very foul-smelling pus inside the fecal passage. Why no diagnosis was made while the man was in the hospital, I am at no loss to explain, since a brief extract from Mr. Treve's book on "Intestinal Obstruction," one of the greatest authorities, will best serve to illustrate these curious cases (see chap. x., p. 237): "The clinical features of chronic intussusception are often, and, indeed, usually, very ambiguous. No form of intestinal obstruction presents so many confusing elements in diagnosis; no form has led to more conspicuous errors in the right appreciation of the nature of the malady. Out of 55 cases collected by Rafinesque, many were never suspected to be examples of intussusception, and no less than 27 were the subjects of an absolutely wrong diagnosis." The same author finds but one case on record where the patient was relieved by fecal fistula, which in that one case emptied into the bladder. As there was no obstruction to the fecal movements in this case after the diarrhœa commenced, the stomach, as we should expect, was clean, normal, and empty, no fecal matter having been regurgitated or vomited. The symptoms while alive, and the subsequent discoveries after death, seem to suggest that the patient died of exhaustion.

124 West Ninety-fifth Street.

CASE OF REMOVAL OF A GLASS ROD, SIX AND ONE HALF INCHES IN LENGTH, FROM THE PERITONEAL CAVITY OF A WOMAN.[1]

By W. GILL WYLIE, M.D.,

NEW YORK.

Miss J——, aged twenty-five; family history is good. Previous history good, except for some trouble with kidneys in 1885. Menstruation always regular and painless up to October 18, 1891, and previous to that time had only a very slight leucorrhœa. Became pregnant after October 18, 1891, and on November 29th, during the morning, she introduced a glass rod, about six and a half inches long and about a third of an inch thick, having one smooth and one rough end, into the os uteri. She had considerable difficulty in doing this, but by sitting up and depressing the posterior wall of the vagina she could distinctly feel the cervix and the os uteri. After several efforts the smooth end was introduced, and finally it slipped in so far that, though she could feel the outer end, she could not grasp it. There was a little flow and some pain, but she walked around during the day as usual. That night she had a pain on the right side of the uterus when she lay down. The next day she went to work as usual, but had a slight flow in the afternoon. On lying down or sitting down the pain in the right side was increased, but it subsided while walking. On December 1, 1891, she had a physician examine her, but he said the uterus was movable and that there was no rod in her. She went about as usual, but the pain continued. On January 10, 1892, she miscarried, and, on account of hemorrhage following, she called a physician, who tamponed her that night, but removed it the next day. She remained in bed for a week, then went back to work. When she got up from the bed she noticed a lump on the right side, and when she pressed upon it she had a cutting pain in the left groin. She consulted me at my office on January 21st. She then had a very foul vaginal discharge. I sent her to my hospital, and had vaginal douches given till the odor was subdued. She was given ether on January 27th, and the uterus and its appendages were found somewhat fixed, and I thought I could feel the rod in the left iliac region. My assistants examined, but were uncertain; and when I examined again I did not feel the rod with certainty, and said that it had been displaced. On opening the abdomen the peritoneum was found congested, and there was much muddy serum, slightly tinged with blood, in the cavity. After breaking up the adhesions about the appendages the bleeding from the adhering left tube was so free and its lumen so obliterated that it was removed along with the left ovary. While feeling around on the left side, where I thought I had felt the rod, I found a thickening as if the rod had been embedded; following up this indication the rod was found in the left lumbar region. In looking for the point through which the rod had reached the abdominal cavity, I decided that it was just posterior to the junction of left tube with the fundus of the uterus. No scar could be found in the vagina. The patient took a douche of "sixty drops of carbolic acid to the quart of water" the night before she introduced the rod. She had some fever after entering my hospital before, but not after, laparotomy. She had intense pain when the bowels moved before the operation, but has no pain now, and is as well as usual.

[1] Read at the March meeting of the Northwestern Medical and Surgical Society of New York.

LEGISLATION ON MEDICAL AND HEALTH MATTERS IN THE VARIOUS STATES IN 1891.

By HENRY A. RILEY, A.B., LLB.,

NEW YORK.

(Continued from p. 430.)

New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota and Ohio.—New Hampshire was one of the States establishing a State Board of Registration in Dentistry. This Board was to consist of three skilled dentists of good repute, residing and doing business in the State, and ten years' actual practice was required besides graduation from a reputable college.

It was provided that every person should register within six months who was in actual practice or had received a dental degree from a college or medical school, or who had a license from the New Hampshire Dental Society.

All other persons were required to be examined in reference to their knowledge and skill in dentistry and dental surgery. The certificates issued upon registration cost fifty cents, and the examination $5.

Any person falsely claiming a certificate, or pretending to be a graduate, or practising without a certificate, was committing a misdemeanor, and liable to a fine of from $50 to $100.

The law did not apply to any physician who is a graduate of the medical department of any incorporated college.

A law was passed forbidding the offering for sale of any adulterated drug or substance to be taken as medicine, or of any adulterated article of food or drink.

Drugs must be of the purity and quality prescribed by the United States Pharmacopœia, or they will be deemed adulterated.

Articles of food containing a less quantity of any valuable constituent than is contained in the genuine articles, or which have been colored or coated to conceal any damage, or which contain poisonous or decomposed substances, are deemed adulterated.

The State Board of Health is directed to make all necessary investigations, and vendors are directed to furnish samples sufficient for analysis on tender of their value.

If any one hinders the officers of the State Board of Health they become liable to a fine of $50 for the first offence, and $100 for the second. The State Analyst, before beginning his analysis, shall reserve and seal up a portion, and in case of prosecution this shall be delivered to the defendant or his attorney.

The name of the Hospital Association at Concord was changed to the Margaret Pillsbury General Hospital.

New Jersey.—In New Jersey an effort was made in counties not of the first class to provide in a private way for the insane poor.

It was directed that where there was in the county no hospital other than the hospital or sick ward of the county poor-houses, the Board of Chosen Freeholders might appropriate a sum not to exceed $2,500, "which shall be applied to the purpose of supporting and maintaining such patients as may be sent to any hospital or hospitals supported by private charity and located in such county, provided the sum so appropriated be used and applied for the benefit, comfort, and maintenance of such patients, inmates of such hospitals, as are residents of said county at the time of being sent to said hospital."

A law was passed abolishing the separate Boards of Managers in charge of the State Lunatic Asylum of Trenton and the State Asylum for the Insane at Morristown, and their control was vested in a single State Board of Managers, consisting of seven members. It was declared to be the "duty of the said Board of Managers to visit each county lunatic asylum in the State at least once in each year, and to inspect such institutions and their management, and to make in their annual report such recommendations as they shall deem necessary concerning such local institutions."

It was made unlawful for the manufacturers of chemicals to deposit any refuse on any vacant lot within one hundred feet of any human habitation under penalty of a fine of $25. If already deposited, and the offender refuses to remove it, he is liable to a fine of $10 per day.

When the milk inspector takes any milk for analysis, he shall divide it into two parts, seal each part in a suitable can, and tender the vendor one part.

The defendant could on the trial produce any competent evidence to show the per cent. of milk solids in the sample delivered to him.

The act to incorporate hospitals, etc., passed in 1877, was amended so as to provide "for the training, education, instruction, or preparation of persons, male or female, to act as nurses."

The charter of the Eclectic Medical and Surgical College of the State of New Jersey, at Jersey City, was repealed, as the institution was without standing or reputation.

New Mexico.—The legislation of New Mexico was meagre on all subjects, and contains little of interest to the profession. The Sanitary Board was given power to make and enforce regulations for the inspection of cattle intended for shipment or driven beyond the limits of the Territory. Railroads were forbidden to receive herds of cattle without certificates showing that brands and earmarks have been duly inspected.

A law was passed prohibiting burials within fifty yards of streams and running water, the former limit having been twenty-five yards.

An appropriation of $25,000 was made for the Territorial Insane Asylum at Las Vegas, to be applied to the erection of a suitable stone building.

New York.—In New York many measures were proposed and a considerable number became laws. One relating to the admission to practise is of considerable interest in view of the very recent but unsuccessful efforts to further amend it.

The 1890 law was changed so as not to apply to any student duly matriculated in any legally incorporated medical college of the State before June 5, 1890, if a certificate stating such matriculation, signed by the Secretary of the college, was filed with the Secretary of the Board of Regents of the University of the State of New York within three months after the passage of the law.

Section 834 of the Code of Civil Procedure provides that no physician or surgeon shall disclose any information acquired professionally, and a paragraph was added as follows: "But a physician or surgeon may, upon a trial or examination, disclose any information as to the mental or physical condition of a patient who is deceased, which he acquired in attending such patient professionally, except confidential communications, and such facts as would tend to disgrace the memory of the patient when the provisions of Section 834 have been expressly waived on such trial or examination by the personal representatives of the deceased patient; or if the validity of the last will and testament of such deceased patient is in question, by the executor or executors named in said will."

The law for the State Care of the Poor Insane, after serious opposition, was supplemented by an Appropriation Law, setting aside $454,850 for the purpose of providing accommodations at the various State Asylums for the Insane to be taken from the county poor-houses. The law directed 827 patients to be transferred as follows: 150 to the Utica State Asylum, 200 to the Hudson River Asylum, 200 to the Middleton State Homœopathic Asylum, 150 to the Buffalo State Hospital, and 125 to the Binghamton State Hospital.

The College of Physicians and Surgeons was authorized to convey all its property and assets to Columbia College, as that institution has made a satisfactory arrangement for the continuance of medical instruction.

The Legislature accepted the gift of the Medical Library of the Albany Medical College, and made it a part of the State Library.

An appropriation of $5,000 was made to provide for shelf-room and cataloguing.

A new charter was passed for the city of Buffalo, and new provisions made for the Board of Health. The Health Commissioner was to be a reputable and licensed physician of not less than thirty years of age, with an active experience as a practising physician of not less than five years.

The city was to be divided into eight health districts, with a physician in good standing in charge of each, and of the eight two were to be homœopathists.

Full and detailed directions were given for the collection and preservation of vital statistics, and rules laid down in regard to the prevention and suppression of epidemics, nuisances, etc.

A law passed in 1888 authorized the erection of a hospital in Brooklyn for the reception and treatment of persons suffering from contagious diseases, but it was found that the inhabitants of various localities selected for it were opposed to its erection, and the Legislature therefore passed a new law appointing three commissioners to consider the question of site and appraise the amount of damage any persons might suffer.

A law of considerable humane interest was that making it mandatory upon the Police Commissioners to appoint matrons at certain police stations, in whose charge should be placed all women prisoners, but under the direction of the officer in command.

There was a law passed in 1890 permitting the Commissioners to appoint matrons, but no action was taken under it and so a mandatory law was passed.

Two station-houses were selected at first, and now over a dozen have had matrons furnished. The law provides that arrangements shall be made to keep men and women prisoners entirely separate.

The project for establishing a botanical garden in New York City was carried through so far as legislative sanction was concerned, and the Park Commissioners were authorized to set aside two hundred and fifty acres in Bronx Park, when $250,000 had been raised by public subscription. When this sum or more had been provided the Board of Estimate and Apportionment was authorized to issue bonds for $500,000. A careless wording of one paragraph of the law seemed to permit the use of the interest and not the principal of the bonds, but it has been thought that a judicial construction of the whole law will permit the use of the main sum.

The objects of the law were stated to be: "The establishment and maintenance of a botanical garden, and museum and arboretum therein, for the collection and culture of plants, flowers, shrubs, and trees; the advancement of botanical science and knowledge, and the prose-

cution of original researches therein and in kindred subjects, for affording instruction in the same; for the prosecution and exhibition of ornamental and decorative horticulture and gardening, and for the entertainment, recreation, and instruction of the people." The scientific and educational part of the plan was placed in charge of the President of Columbia College, the Professors of Botany, Geology, and Chemistry in that institution, the President of the Torrey Botanical Club, the President of the Board of Education and their successors.

An effort has been made, but unsuccessfully, to change the *personnel* of the educational management.

The business and financial affairs of the corporation are placed under the control of a General Board of Managers, consisting of the persons above mentioned, the Mayor, the President of the Board of Commissioners of Public Parks, and not less than nine other persons to be elected by the incorporators.

The interest of the city of New York in the block between Forty-ninth and Fiftieth Streets, and Fourth and Lexington Avenues, was authorized to be released to the Woman's Hospital on the condition that the managers provide and maintain twenty-four free beds for poor persons residing in the city of New York.

Admission was to be obtained under ordinances passed by the Common Council.

The following appropriations were made for improvements, new buildings, etc., at various public institutions:

State Asylum for Criminal Insane at Matteawan.. ...	$76,461 33
St. Lawrence State Hospital.....	374,000 00
Middletown State Homœopathic Hospital.....	29,500 00
Willard State Hospital.....	37,700 00
State Custodial Asylum for Feeble-minded Women....	16,000 00

North Carolina.—North Carolina enacted considerable legislation on medical matters, and among other things passed a law providing for anatomical material. The law says: "That for the purpose of aiding and promoting the study of anatomy in this State the Board of Directors of the Penitentiary are hereby directed to turn over to the State Medical School established at the University, or any other medical institution or college in this State, under such rules as they may prescribe, the dead bodies of all convicts except such as shall die of small-pox or scarlet fever, or any other contagious diseases, and which are unclaimed by relatives after due notice."

The law of 1889 relating to medical practice required practising physicians to register in the office of the clerk of the Superior Court by January 1, 1890. This period was extended in 1891 by amendment to January 1, 1892.

There were a number of amendments to the Pharmacy law. A person to be registered must now be a graduate of some College of Pharmacy, approved by the Board of Pharmacy, instead of the N. C. Pharmaceutical Association as formerly. The exception in regard to regular practising physicians was also stricken out, and they are now ineligible as registered pharmacists unless graduates of a College of Pharmacy. The mode of electing members of the State Board was also changed, and it was provided that the Pharmaceutical Association should annually elect one person who should be commissioned by the Governor.

The Legislature passed a comprehensive law regarding instruction as to the nature of alcoholic drinks and narcotics, with special reference to their effect upon the human system, and directed that this subject, in connection with the more general one of physiology and hygiene, should be taught like other branches in the public schools of the State.

It was directed that the text-books used in the lower grades should give at least one-quarter of the space to the nature and effect of alcoholic drinks, and that those for the higher grades should have at least twenty pages of instruction.

No certificates of qualification to teach in the public schools should hereafter be granted except after a satisfactory examination in the general subject of alcoholic stimulants.

Following out the general trend of the above law there was a large body of legislation directed toward the restriction of the liquor traffic. Probably not less than one hundred and fifty laws were passed forbidding the sale of spirituous liquors within certain distances of specified places which were usually school-houses or churches. These distances varied from one to five miles. A violation was termed a misdemeanor and punished by fine or imprisonment, or both. The Beulah German Reformed Church was distinguished by having a special law enacted in its favor to the effect that it was a misdemeanor for any one to exhibit himself drunk within two miles of the church when it was occupied for worship, or to use bad and indiscreet language while divine service was going on.

The penalty for the use of indiscreet language, not to mention the other offences, was a fine of not more than $50, or imprisonment not to exceed thirty days.

The name of the Western North Carolina Insane Asylum was changed to "The State Asylum," and arrangements made for admitting white inebriates under the same form of commitment as in the case of the insane, except that a specified time was to be inserted in the order.

This period was not to exceed twelve months, and could not be less than three months. If the Superintendent and Board of Directors think that treatment for a longer time than three months will be advantageous to the patient they can detain him for six months.

Only twelve inebriates are to be treated at one time.

There was a good bit of kindness and sentiment in one law passed by the Legislature, and that was the direction that the name "County Poor-house" should be abandoned and the institution styled "Home for the Aged and Infirm."

The sale or gift of cigarettes, or any substitute thereof, to a minor under the age of seventeen, was made a misdemeanor, and the offender is liable to fine and imprisonment.

North Carolina evidently believes in special legislation, for an act was passed allowing R. D. Jennings to register as a dentist within ninety days by complying with the law of 1887 and other laws.

Another act cast a protecting shield over Gaston County, by providing that if any physician should make any prescription for the purpose of aiding any person to purchase any intoxicating liquor contrary to the provisions of the law, he should be guilty of a misdemeanor and be fined at the discretion of the court.

The law of 1887 relative to the practice of dentistry contained a proviso that dentists who held a diploma from a chartered dental institute need not obtain a certificate from the State Board of Examiners. This proviso was stricken out by amendment in 1891.

North Dakota.—A considerable part of the legislation in this new State consisted in describing offences against the law and providing for their punishment. It was ordered that no horses, mules, cattle, etc., running at large could be branded between November 1st and May 1st, under a penalty of $100 fine and thirty days' imprisonment. The same punishment was made applicable to any person cutting off either or both ears close to the head of any horse, cow, calf, swine, etc.

It was declared to be a misdemeanor for any person to overload, overdrive, torture, deprive of food and water, expose unnecessarily to heat or cold, to leave unhitched or uncovered in cold weather or storm or in the night, any horse or similar animal.

It was also made a misdemeanor for anyone to keep dogs or birds for fighting, or to have a pit for this purpose.

A law was passed providing for a State Veterinarian and specifying his duties.

He was to investigate all contagious diseases among domestic animals, and to make visits of inspection to

localities where it was suspected that such diseases existed.

When animals were temporarily unloaded it was his duty to seize and inspect them unless the owner produced a certificate of health from the State Veterinarian or Examiner in another State. All animals coming into the State must be examined unless an affidavit is furnished that they had not been exposed to contagious diseases for ninety days.

He may order a quarantine, and if the case demands it shall report to the Governor, who shall issue such proclamation as is necessary. The salary of the State Veterinarian was placed at $2,000 and expenses.

Ohio.—An attempt was made to pass a Medical Practice law, but unsuccessfully, and there was little in the State of purely medical legislation. An act was passed, however, to permit physicians in the discharge of their professional duties to ride at their own risk on freight trains between stations where such trains stop, paying therefor the regular passenger fare.

The name of the Intermediate Penitentiary at Mansfield was changed to the State Reformatory, and detailed regulations were enacted for putting into operation the parole system.

All male criminals between sixteen and thirty, not previously sent to State Prison, and not guilty of murder in the first or second degrees, were to be sent to the Reformatory, and all sentences were to be general, without a limit, but the term was not to be considered as longer than the maximum now provided, or shorter than the minimum.

The Board of Managers were given power to establish rules by which prisoners might go on the parole in legal custody, and subject to rearrest for wrong-doing. If the Superintendent and Chaplain believe from the record and character of the prisoner that he will, if released, live and remain at liberty without violating the law, they are to report the case to the Board of Managers, who shall publish a notice that his case will be taken up for consideration, and any inquiry that the Managers may deem desirable may be made into his previous history.

If the decision is favorable the offender may be released, and a watch is to be kept over him so that he may be rearrested if necessary. If his conduct is satisfactory he may be recommended to the Governor for restoration to citizenship.

The whole system of discipline is to be reformatory, and carried out with the idea of restoring the criminal to an honest life.

All facts ascertainable regarding the previous life of each prisoner shall be entered in a book, and a memorandum made of his constitutional defects and tendencies, and suggestions in regard to the best probable system of treatment.

A uniform system of regulations shall be adopted, and some plan of marks or credits. The standing of each prisoner under this system shall be made known to him every month.

Appropriations were made for a new wing at the Cleveland Asylum for the Insane, costing $35,000, and for new buildings at the Dayton Asylum for the Insane, costing $30,000. The city of Cincinnati was also authorized to add one-tenth of a mill to the tax levy, for the purpose of improving and repairing the Cincinnati Hospital.

(To be continued.)

Leprosy in Spain.—Leprosy has been on the increase in different parts of Spain for some years past, and the extension of the disease has at last aroused the attention of the Government. On February 16th the Director-General of Beneficence and Sanitation sent a circular letter to all governors of provinces calling on them to take such steps as may seem necessary under the circumstances.

Clinical Department.

STRICTURE OF THE URETHRA IN THE FEMALE, AND REFLEX NEUROSIS FROM URETHRAL STRICTURE IN THE MALE.

By W. O. BRIDGES, M.D.,

OMAHA, NEB.,

PROFESSOR OF CLINICAL MEDICINE, OMAHA MEDICAL COLLEGE; PHYSICIAN TO ST. JOSEPH HOSPITAL.

In the Medical Record of January 19th last, appeared an article from Dr. Fessenden N. Otis, on "Reflex Irritations and Neuroses from Stricture of the Urethra in the Female," and containing the histories of several cases which had, during several years of suffering, eluded the diagnostic skill of numerous physicians, finally to find relief at his hands after satisfactorily establishing a diagnosis of stricture. Professor Otis takes the ground that urethral stricture in the female is much more common than would be inferred from a reference to the books, and certainly, from the thirty cases which he states have come under his observation, and the statement by Emmet, third edition, page 257, "Stricture of the female urethra is rare in my experience, except as the result of violence, and it follows the use of nitric acid, other caustics," etc., his assumption must be correct.

The following case came under my observation several years ago, and, on referring to the literature of the subject at the time, I was impressed with the scantiness of the articles found, many of the works at my command containing not a single reference to it.

Case I.—Mrs. G——, aged forty-five, German, married, the mother of several children, applied to me in the fall of 1886 for treatment. She had during the two previous years increasing frequency in urination, with tenesmus, which had latterly become so intense as to occasion great pain in the bladder, loins, and back. During the past four months she had noticed also increasing difficulty in voiding the urine, and required fifteen or twenty minutes of severe straining to complete the act. She had lost sleep on account of her suffering, and the demands of the bladder had become so constant as to interfere seriously with her household duties. She was nervous, irritable, sleepless, depressed, and had suffered so much that life was said to be no longer bearable. Her urine had been cloudy during the greater part of the time, and occasionally contained some blood. The flow was also said at times to be interrupted, particularly since she had experienced so severe straining as she had at the present time. A suspicion of chronic catarrh, with possibly stone in the bladder, prompted an examination, which revealed a lacerated perineum, an enlarged, somewhat prolapsed uterus, and cervical catarrh. The mucous membrane about the urethral orifice was congested, and the latter protruding and pouty. On making an attempt to enter the bladder for exploration, a No. 9 sound was arrested by an obstruction at about the middle of the urethral canal. A uterine sound met with the same fate, and finally a small pocket-case probe was passed into the bladder with some difficulty. A small-sized bougie was then introduced, and a stricture located three-fourths of an inch from the meatus. Five per cent. solution of cocaine was injected into the urethra, and successive bougies passed until a No. 9 E. sound was admitted. Exploration revealed nothing abnormal about the interior of the bladder. The stricture was then dilated by sounds until a No. 15 E. was introduced, and the bladder emptied and irrigated with boracic acid in hot water. It was found to hold only two ounces with comfort to the patient, anything above this amount occasioning great distress and imperative desire to void the contents. The urine was found to be phosphatic, and contained shreds of mucus and pus in considerable quantity. On alternate days steel sounds were passed in increasing sizes to No. 21 E., which was used for several weeks longer. At each visit the bladder was thoroughly irrigated and its

capacity forcibly increased, until finally six ounces could be readily tolerated. From the first, improvement occurred, and became so marked in two months that she ceased treatment. During the following year I learned from time to time that she had no recurrence of bladder symptoms. Investigation revealed a previous gonorrhœa in the husband of this woman as a probable cause of the stricture.

In Dr. Otis's article attention is also called again to the remote reflex effects of urethral stricture, a subject upon which he has written vigorously, and to whose articles I am much indebted. The following case, recently experienced, presents a train of effects which are out of the ordinary reflex manifestations of stricture.

Case II. was referred to my clinic at the Omaha Medical College by Dr. Allison, in the latter part of December last, and presented the following history: James F——, aged thirty-four, Irish, unmarried, laborer, of nervous temperament; had never been ill until his present trouble began, four years before. In 1881 he contracted gonorrhœa, which lasted several months. In 1888 he began to experience tremors of the muscles of the forearms and hands, particularly noticeable when those members were extended. Very soon his legs became affected in the same way, and on attempting to walk he seemed to lose control over the moving leg, which rendered his gait unsteady. This condition increased to such a degree that his gait became constantly staggering, and he was soon obliged to give up active work. The annoyance intensified his nervousness and tremors, and his trouble was frequently attributed to an excess of alcoholic stimulants, by those with whom he came in contact. At the same time he noticed increasing difficulty in passing urine, the time required for the act becoming prolonged, and his power to forcibly eject the stream decreasing. There was also much diminution in the sexual desire, and erections were infrequent. He was much annoyed by very frequent seminal emissions, which had averaged two or three times weekly in the preceding four years. These were generally unattended by erections, and occurred during sleep. He had sought medical aid in various quarters, but had been led to believe that his case was incurable.

He was tall, thin, and exceedingly nervous. When attempting to speak, his words would come out in a jerky, irregular way, and on extending either arm or leg, violent tremors would occur. If such efforts were persisted in, the entire body became affected. On attempting to walk there was apparent loss of power over co-ordination, and he staggered along like a drunken man who had not yet lost all power over the muscles. He was unable to stand with the eyes closed and the feet in apposition, which symptom, with the co-ordinating defect, had strongly suggested the diagnosis of locomotor ataxia to the members of the college dispensary staff. The reflexes were much exaggerated, particularly of the patellar tendon. There was no anæsthesia, no history of numbness or prickling; there had been no eye symptoms; constipation had been and was quite distressing; there was no muscular atrophy or paralysis. His difficulty in urinating had continued to the present time. This combination of symptoms was not decisive of any organic spinal affection with which I was familiar, and the suggestion of reflex irritation occurred to me. On further questioning, he informed me that he had a long foreskin, which occasioned much annoyance from retained secretions. This was examined, and thought possible to account for the symptoms. Without home, friends or money, he was advised to enter the surgical ward of St. Joseph Hospital, where Dr. Neville performed circumcision before the college class. There was no improvement in his general condition or in the bladder. I then suggested that he be sounded for stricture, thinking possibly the bladder trouble might be the result of such, his history showing a previous gonorrhœa, although four years antedating his first symptoms. An examination revealed a contracted meatus, which was enlarged. Two strictures were then found in the pendulous urethra, which admitted no larger than a No. 13 French sound; these were divided with Otis's urethrotome. Sounds were then passed up to No. 20 E. Immediate improvement to his urinary difficulty ensued, and within a week he was decidedly less nervous; he had some control over the muscular tremor, and there was a marked change in his gait. In a month's time he could stand with his feet in apposition and the eyes closed, the body swaying a little only after a number of minutes. In two months he reported having been at work tending plasterers for two weeks, and was greatly improved. He could walk with steadiness, his muscular tremor had almost disappeared, the patellar tendon was only slightly exaggerated, there was return of virile power, and his nightly emissions had been much less frequent. The large-size sound was being introduced weekly, and he was taking a combination of iron, arsenic, and strychnine.

FORWARD DISLOCATION OF THE RADIUS AND ITS REDUCTION.

By THOMAS PARKER, M.D.,

EAST PORTLAND, ORE.

Miss D. P——, aged twenty, of Mount Tabor, Portland, called at my office and complained of having sustained an injury to her elbow on the previous day, in consequence of which she was unable to attend to her duties. A forward dislocation was diagnosed without difficulty. After several unsuccessful attempts at reduction, on the plan laid down in the text-books, the patient was ordered home, but to return the following day, and in the meantime use hot fomentations to reduce the swelling.

Being then engaged with Professor Henry Coe in dissecting for his class, I hastened thither, and after considerable trouble produced a forward dislocation of the radius in the cadaver. In so doing my attention was attracted to a peculiar action of the radius on pronation and supination, the forearm having first been flexed; upon performing the latter it was interesting to see how the shallow, cup-like surface of the head of the radius screwed off the capitellum into the depression above the front part of the radial tuberosity, and how, upon pronation, it left its abnormal site, and gliding with a screw-like motion returned upon the capitellum. From the above experiment the following plan is easily deduced: For the easy reduction of a forward dislocation of the head of the radius, flex the forearm, then make firm pronation with one hand while the other follows the head of the radius into its normal site. This simple plan succeeded on my patient the following day at the first attempt.

The injury in this case was caused by powerful action of the biceps muscle, pulling the head of the bone out of its place, the forearm being strongly supinated, in the act of lifting a heavy weight from the ground.

Prizes of the Spanish Academy.—The Spanish Medico-Chirurgical Academy offers prizes of two hundred and fifty pesetas ($50), with the title of Corresponding Member of the Academy, for the best essays on the following subjects: 1. (Academy prize) Clinical Concept and Critical Discussion of the Modern Theories of Inflammation. 2. (Pedro Espina y Martinez prize) Critical Discussion of the Clinical Value of Changes of the *Timbre* of Physiological Murmurs and Rhythm in the early Diagnosis of Cardiac Disease. Essays, which may be written in Spanish, Portuguese, French, Italian, English, or German, must be sent before September 1, 1892, to the General Secretary, Señor Enrique Olivan y Sanz, Montera 22, Madrid.

Small-pox in Bombay.—There is a serious epidemic of small pox in Bombay. Twenty-three deaths from the disease are reported to have occurred in one week, and the malady continues to spread.

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REFORM IN ANATOMICAL NOMENCLATURE.

WE learn that Professor William Krause, of Göttingen, is going to Berlin to prosecute the task of securing a uniform anatomical nomenclature. He has undertaken this work at the instance of the Anatomical Society, and the expenses are to be borne by it and the Universities of Berlin, Vienna, and Leipsic. For many years this subject has been discussed, and reform advocated with conscientiousness and industry, by Professor Wilder, of Cornell University. If the distinguished professor's views had not been so radical and subversive he would have, doubtless, made a great success of his apostleship. As it is, he has been instrumental in securing a number of improvements in anatomical onymy.

The Association of American Anatomists has made two brief reports upon nomenclature, and has recommended the adoption of a few terms in nervous anatomy. Further reports are expected. The Association for the Advancement of Science has also appointed an International Committee on Biological Nomenclature, from which good results may be expected.

The committee appointed by the German Anatomical Society in 1889, to superintend the work, consisted of Kölliker, Oskar Hartwig, His, Kollmann, Merkel, Schwalbe, Toldt, Waldeyer, and Karl Bardeleben; and their number was augmented in the following year by the election of Cunningham, of Dublin, Leboucq, of Ghent, and Romiti, of Pisa. France, England, and America are not represented. It is to be hoped that Professor Krause's work will not end in securing a Germanized uniformity, which will only add to the difficulties of learning anatomy on the part of students of other nationalities.

DIPHTHERIA DIGESTION.

THE investigations into the pathology of diphtheria are reaching a stage of completeness which is most satisfactory. The latest results have recently been presented by Dr. Sidney Martin, in the Gulstonian Lectures on the Chemical Pathology of Diphtheria. These lectures are not yet finished, but already Dr. Martin has apparently demonstrated facts of great and essential importance. Thus his experiments show that: 1. The bacillus diphtheriæ forms, from proteids, products of the same chemical nature as those found in the bodies of patients dead of diphtheria, viz., albumoses and an organic acid. 2. The albumoses formed by the bacillus in artificial cultivations have, in single and multiple doses, the same physiological action as those found in cases of diphtheria in man; this action is the production of fever, of diarrhœa, and of loss of body weight, and of a progressive paralysis of the muscles dependent on a degeneration of the peripheral nerves. 3. The bacillus diphtheriæ is the primary infective agent. This organism liberates a ferment, the ferment is absorbed and digests the proteids of the body, producing the poisons which cause the diphtheritic symptoms. Diphtheria is essentially a form of digestion, then, and Dr. Martin presents the digestive table as follows:

Diphtheria Digestion.

Primary Infective Agent.	Secondary Infective Agent.	Digestive Products.	
Bacillus diphtheriæ	Diphtheria ferment (Roux and Yersin's poison) in membrane	Hetero-albumose Proto-albumose Deutero-albumose Organic acid	In membrane. In body.

The digestive process does not take place in the membrane on the throat; nor, according to Dr. Martin, is the membrane the only source of the diphtheria products. Diphtheria digestion seems to take place to a considerable extent in the spleen.

THE HISTORY OF AN ABDOMINAL COMPRESS.

IF all laparotomists would write up the story of sponges, instruments, compresses, etc., left in the abdominal cavity, they would form a series of interesting, though perhaps somewhat tragic, tales.

A Paris surgeon performed abdominal section, in April, 1890, on a woman, aged forty-four, for a painful fibromyoma of the uterus. The uterus was removed with considerable difficulty, the pedicle fixed to the abdominal wound, the edges of which were then brought together. In order to protect the neighboring viscera during the operation, a certain number of sponges and gauze compresses—all carefully asepticized—were introduced into the abdominal cavity, each compress and sponge being held with a forceps. The same evening vomiting and pain came on, which lasted for six days, without any elevation of temperature. A month after the operation the woman was considered cured. In the month of August, however, pain, attributed to the presence of gall-stones, appeared in the right hypochondrium; this disappeared in a few days. In September there was a renewal of the pains, which now involved the whole of the abdomen, and were accompanied by vomiting and tympanites, without fever. Palpation revealed the presence, in the region formerly occupied by the uterus, of a series of hard, movable nodules, resembling cancerous masses. A re-examination, under the microscope, of the tumor showed that it was a pure fibro-myoma. The patient remained in much the same condition for two months, when one day she passed per rectum a gauze compress enveloped in a hard fecal mass. All the unpleasant symptoms very soon subsided, and the woman has remained well since that event.

The Paris correspondent of *The Lancet*, who gives the above account, adds: That the occurrence of such a *con*

tretepps is not altogether unknown in the practice of the most careful surgeons is well attested. One operator now uses in abdominal sections fifteen compresses, hemmed in red, the enumeration of which is carefully made on the completion of the operation. A well-known surgeon once left a forci-pressure forceps in the abdominal cavity. The instrument remained in the cavity for eight months, and was then eliminated through an abscess which formed in the umbilical region. Another relates how he once left a sponge in the abdomen, the patient dying of peritonitis three days after the operation. He no longer employs sponges.

STOP SPITTING.

THE modern gospel of prophylaxis teaches that phthisis can be abolished from the face of the earth if only people will stop spitting. Says Dr. T. M. Prudden:

"If the vile and increasing practice of well-nigh indiscriminate spitting goes on unchecked in nearly all assembling places and public conveyances; if the misguided women who trail their skirts through the unspeakable and infectious filth of the street are to be admitted uncleansed into houses and churches and theatres; if theatres and court-rooms and school-houses and cars are to remain the filthy lurking-places of contagia which their ill ventilation and their mostly ignorant and careless so-called cleaning necessarily entail; if in sleeping-cars and hotel bedrooms the well are to follow consumptives in their occupancy without warning, or even the poor show of official disinfection; if in ill-ventilated and ill-cared for dwellings the well must breathe again and again the dust-borne seeds of tuberculosis; if no persistent warning is to be given to the ignorant of the dangers which lurk in uncleanliness—then our task will be most complex as well as difficult in limiting the contagiousness of tuberculosis."

Of course cleanliness and plenty of water are necessary; but, after all, it is the expectoration which carries the germ and promotes the spread of disease. Spitting, it seems, is not only a vile, but an increasing, habit. This is an unfortunate social fact which reformers do not seem to have grasped, despite its noxiousness. Shall we not have to have a Society for the Prevention of Expectoration—except into sanitary spit-cups? If one could stop the spitting habit, prevent the spread of consumption, and finally stamp it out, he would be greater than a tariff reformer.

A NEW HOSPITAL AND DISPENSARY.

THERE was opened last Sunday, in this city, an institution calling itself the Church Hospital and Dispensary. The special object of the organization is to centralize the dispensary work of the various Episcopal churches; it aims also to pay especial attention to visiting patients at their homes.

There are, we are told, many cases where the removal of the patient from his home is, to say the least, unadvisable, either from the nature of his disease or because of the consequences to his family. To such cases this new institution intends to give special attention, and a corps of nurses and twelve visiting physicians will be provided to care for the patients in their homes.

In this way it is expected that much good will be accomplished, and a sisterhood, to be known as the Nursing Sisters, will be established, with the object of visiting and caring for patients in their own dwellings. It will probably be modelled after the similar sisterhoods connected with St. Bartholomew's and Guy's Hospitals in London.

Another special feature is a secretary, "who will devote his time entirely to investigating cases as they come in, and frauds and charlatans will receive little consideration."

Although the Church Hospital and Dispensary is an Episcopal organization, it will receive and treat patients of all creeds and classes.

Whether New York needs a new general hospital and another general dispensary is a matter of some doubt; if it does, this new institution seems to be properly organized to supply the supposed want.

News of the Week.

Association of American Medical Colleges.—The third annual session of the Association of American Medical Colleges will convene at the building of the Detroit College of Medicine, at 3 P.M., Wednesday, June 8, 1892. Dr. N. S. Davis, President of the Association, will read a paper upon the following-named subject, to wit: "To what Extent should Clinical Instruction be Afforded the Student of Medicine in Regular Course?" Another paper will be read by Professor V. C. Vaughn, of the University of Michigan, as follows: "To what Extent should Laboratory Instruction be Afforded the Student of Medicine in Regular Course?" The discussion upon the papers will be opened by parties selected by the authors, and continued by the delegates *in extenso*. The indications point to a large attendance and a most interesting session, with the probability of representatives from a large majority of the colleges of the United States.

Was it Simply a Pleasure Trip?—A subscriber from Havana, Cuba, writes: "Last week a party of thirty-eight physicians arrived from Florida. Did those gentlemen come simply on a pleasure trip, or did they have a scientific object? If they were on a pleasure trip, the medical societies of Havana would have been glad to welcome them and show them every attention. If they had a scientific purpose, we regret their not applying to any of the medical and hygienic societies (Academy of Medicine, Society of Clinical Studies, Society of Hygiene) established in this city, which are the only ones able to give accurate information in regard to medicine or hygiene."

American Dermatological Association.—The American Dermatological Association, from Cushing's Island, Portland Harbor, will hold its next annual meeting at the Pequot House, New London, Conn., instead of Cushing's Island, as previously announced.

Dr. Ferdinand M. Pasco, of Red Creek, N. Y., died of acute peritonitis in that village on April 5, 1892. Dr. Pasco was fifty-two years of age, and had been actively engaged in the practice of medicine for nearly thirty years. He was graduated from the Medical Department

of the University of Vermont, in 1863, and immediately thereafter enlisted as a private in the One Hundred and Eleventh New York Volunteers, and was subsequently appointed Assistant Surgeon of the One Hundred and Twenty-sixth New York Volunteers, which position he held until the close of the war. He was widely known and highly respected, and he possessed to a remarkable degree those qualities of heart and mind which secured for him the well-deserved reputation of being a good and skilful physician.

Rapid Generation.—Dr. L. M. Sharp, of Minneapolis, Minn., writes: "On October 4, 1885, I attended a lady at the birth of her first child, and on July 19, 1886, I again attended her in her second confinement, just nine months and fifteen days between the birth of the children, both born at full time and well developed. She was a Scotch lady and had come to this city only a few weeks before her first child was born. Can any of the readers of the MEDICAL RECORD equal this?"—[We doubt if they can! —ED.]

The Congress of Criminal Anthropology will hold its meeting at Brussels in August and September of the present year. The careful and dispassionate study of criminals, from a purely scientific stand-point, is one of those distinguishing circumstances which mark off modern from mediæval and ancient times. A rough-and-ready promptitude was the chief characteristic of the behavior of all classes of persons toward known criminals, in almost all centuries and countries, before the dawn of modern science. But it is now recognized that the state and the public owe at least one duty, even to criminals, namely, that of taking the trouble to understand them.

A Successful Laparotomy in the Seventeenth Century.—The following note, in the "Diary of John Evelyn," would indicate that our professional brethren of two hundred and fifty years ago were not very far behind us in the matter of abdominal section for foreign bodies. It is dated Leyden, August 19, 1641, and reads: "Among a great variety of other things, I was shown the knife newly taken out of a drunken Dutchman's guts by an incision in his side, after it had slipped from his fingers into his stomach. The pictures of the chirurgeon and his patient, both living, were there."—*New York Medical Journal.*

Medical Advertising Pronounced Infamous or Disgraceful.—The whole question of advertising in connection with surgical and medical practice has been revived in England by the result of a long legal battle between a dentist named Partridge and the General Medical Council. It appears that in 1878 he was arraigned for advertising, and promised that he would not do so any more, agreeing to forfeit his diploma if he did. This promise, in its full sense, he did not keep, for in 1882, having become blind, he started a Ladies' Dental Association, which he advertised extensively over his own name. The Council took action against him in 1886, and decided to strike his name off the dentists' register. He went to law about it, and Mr. Justice A. L. Smith, who was confirmed by the Court of Appeals, granted him a mandamus to compel the Council to restore his name. Then he brought an action for malicious prosecution, and failed; and again, at the end of 1887, the Council struck his name off. Hence the present action, in which, first Mr. Justice Denman, and then the Court of Appeal—represented by the Master of the Rolls and Lords-Justices Lopes and Fry—have declared that the General Council is right. The Council is entitled, under the Dentists' Act, 1878, to erase the name of any person proved to "have been guilty of infamous or disgraceful conduct in a professional respect." This is the strong language which, according to the Council and the Court of Appeal, is applicable to Mr. Partridge, who has advertised. It is declared to be "infamous and disgraceful in a professional respect" for a dentist to announce himself in the newspapers. The decision has provoked much vigorous and unfavorable comment.

An Intestinal Tonsil.—Clado, in a monograph on the "Appendix Vermiformis," states that it functions as a gland, not an absorbing organ, and may be considered an intestinal tonsil.

Vivisection in Germany.—The Education Committee of the Prussian House of Representatives has lately had under consideration a petition from the "International and Hanoverian Association for the Suppression of the Scientific Torture of Animals," urging the absolute prohibition of vivisection. Both the House of Representatives and the Reichstag have already had the question before them, and the late Cultus-Minister, Dr. von Gossler, imposed certain restrictions on scientific investigators, in respect of experiments on animals, with the object of preventing any abuse. The majority of the Committee were of opinion that science could not dispense with vivisection, and that abuses had only been proved to have occurred in a few isolated instances. Such exceptional cases did not, however, in the opinion of the Committee, justify the total prohibition of vivisection. The House was therefore recommended to pass to the order of the day.

Venereal Disease in the Italian Army.—In 1888 Signor Crispi considered it advisable to abolish the enactments at that time in force for the regulation of prostitution. This step appears to have been quickly followed by a large increase in the prevalence of venereal disease both in the army and in the civil population, and the evil became sufficiently serious, in Signor Nicotera's opinion, to justify him in reversing the policy of his predecessor in this respect. By a decree dated October 25, 1891, the greater part of Signor Crispi's enactments, putting an end to the official registration of prostitutes, and to their compulsory examination and detention in hospital for treatment, etc., have been rescinded.

A Surgical Record.—The Museum of the Royal College of Surgeons will shortly be enriched with a singular, interesting, and extensive series of preparations, constituting what is, we imagine, a unique record in this department of surgery. Sir Henry Thompson completed last week his thousandth case of operation for removing calculus of the bladder and foreign bodies therefrom—994 of the former and 6 of the latter. Every specimen has its history and the names of the persons, and usually the medical man interested in the case; the whole arranged in various tables, so as to give an exact statement in tabular form, grounded on the records taken in every case at the time in clinical books now in possession of their

author. The only comparable record is that of Civiale, but his collection was not classified or accompanied by clinical records or notes of the cases.

Management of Hospitals at North Brother Island.—At a recent meeting of the Board of Health, the following resolution was adopted: "*Resolved*, That upon due consideration of the testimony taken at an investigation in respect to the management of Dr. F. R. Percival, of the Riverside Hospital, at North Brother Island, in connection with typhus-fever cases, this Board concludes that the persons sick with typhus fever have been properly treated and cared for, and that no further action is necessary in the premises at present." Soon after the investigation referred to was commenced, Dr. Percival was removed from the charge of the typhus-fever cases and transferred to the charge of patients ill with other contagious diseases at North Brother Island, and he is still on duty in the latter position.

Cannibal Therapeutics.—Two Tartars in the neighborhood of Kazan have been sentenced to twelve years' penal servitude for the murder of a little girl six years of age. They had cut out her heart to give it to a sick person to eat, as a human heart had been prescribed by a mullah!

The Parrot Epidemic.—The Paris press has been publishing details of an alarming epidemic which broke out in three different centres in Paris. The disease was supposed to be a special form of epidemic pneumonia, and it was assumed to have been imported from Buenos Ayres through the medium of a cargo of parrots brought from that port by two Paris traders. Dr. Dujardin-Beaumetz has now completed his investigation of the occurrence, and he exculpates the parrots, and states that we have had to deal with a pneumonic form of influenza. The only part taken by the parrots is probably the conveyance of the germs on their plumage. Several patients have succumbed to the disease, as also many of the parrots, but the surviving parrots are in a good condition.—*The Lancet.*

The Alleged Danger of Counter-irritation in Phthisis.—It is a not uncommon practice to put a blister or other counter-irritant over the apex of a tuberculous lung. According to Dr. Parrachia Anacleto, however (*The Lancet*), counter-irritation in localized tuberculosis is attended with great danger. Miliary tuberculosis spreads so rapidly from one organ to another, by way of the veins and lymphatics, that any irritation set up at the seat of the primary mischief cannot fail to increase the tendency of the disease to become general. Four cases which have recently come under his notice show this in a remarkable degree. Tuberculosis progresses slowly, but it allows of no violent remedies, and, he thinks, until some method of treatment more successful than either the injection of tuberculin, or cantharidate of potash, or the application of blisters has been discovered, the danger of causing general infection by their adoption will still remain.

Surgical Treatment of Gangrene of the Lungs.—A Paris surgeon, Dr. Périer, has reported (*The Lancet*) the case of a man, aged fifty-eight, whom he had treated surgically for gangrene of the lungs. The usual antiseptics given by the mouth had been all tried and found wanting, and the following operation was accordingly performed by M. Périer. An incision having been made in the second (left) interstitial space, the lung tissue, still covered by pleura, was seized with a pair of forceps. The pleura and the lung were then successively incised, about two centimetres of lung having to be traversed before the purulent cavity, which had a capacity of sixty cubic centimetres, was reached. The cavity was carefully disinfected, its parietes washed with camphorated naphthol, and finally its drainage guaranteed by two large tubes placed parallel in double-barrelled gun fashion. Cutaneous sutures were then inserted on each side of the tubes. The operation was performed on December 25, 1891, and union was complete on February 9, 1892, one drainage-tube having been removed on January 10th, and the other on January 14th. All cough, expectoration, and morbid physical signs having now disappeared, the patient, who is feeling quite well, may fairly be pronounced cured.

Statistics show that 47,000,000 of people die every year, and that to each and every one of these 47,000,000 must be allotted 2 × 6 feet of ground, making a total of nearly twenty-one square miles of the earth's surface that is each year taken up for burial purposes.

New Chairs and Professors at the Jefferson Medical College.—The Board of Trustees of the Jefferson Medical College, at their meeting, April 7, 1892, instituted a Chair of Clinical Gynecology, with a seat in the Faculty, and elected to the new chair Dr. E. E. Montgomery, who has been for a number of years Professor of Gynecology in the Medico-Chirurgical College. They also established the following clinical professorships, electing Dr. F. X. Dercum, Professor of Nervous Diseases; Dr. E. E. Graham, Professor of Children's Diseases; Dr. H. Augustus Wilson, Professor of Orthopedic Surgery; Dr. H. W. Stelwagon, Professor of Dermatology; and Dr. W. M. L. Coplin, Adjunct Professor of Hygiene.

A Layman's Mistake.—Dr. W. E. Forest writes: "In my article entitled 'A New Method of Artificial Respiration in Asphyxia of the New-born,' the word 'palpitation,' on page 398, should read palpation. A non-medical person undertook to correct the proof, and having never heard of palpation of the heart, felt sure that it must mean palpitation, and made the correction accordingly."

Virginia Medical Law.—The Supreme Court of Virginia has decided that the medical law of the State is unconstitutional. The case before them at which this decision was given was that of a largely advertised doctor from Boston, against whom complaint had been brought by the State Medical Board, alleging that he had no right to practise under the laws of the State.—*Boston Medical and Surgical Journal.*

Pan-American Medical Congress.—The following are the members of the Auxiliary Committee and Secretaries of Sections appointed from the West India Islands of different nationalities: *Danish West Indies.*—Member of International Auxiliary Committee, Dr. P. Mortensen, St. Thomas; Secretaries of Sections, Dr. Erichsen, St. Thomas; Dr. Kalmer, Santa Cruz. *Dutch West Indies.*—Member of Foreign Auxiliary Committee, Dr. J. J. Senior, Curaçao; Secretaries of Sections, Dr. C. Van Romondt, St. Martins; Dr. A. D. Jesurun, Curaçao.

French West Indies.—Member of Foreign Auxiliary Committee, Dr. Arnaud, Martinique. *St. Kitts and Nevis.*—Member of Foreign Auxiliary Committee, Dr. W. J. Branch, St. Kitts; Secretaries of Sections, Dr. A. P. Boon, St. Kitts; Dr. G. H. Mapleton, St. Kitts. *Leeward Islands.*—Member of Foreign Auxiliary Committee, Dr. A. G. McHattie; Secretaries of Sections, Dr. G. E. Pierez, Dr. A. E. Edwards, Antigua; Dr. P. Numa Rat, Domenica. *Barbadoes.*—Vice-President, Dr. Thomas Bowen; Member of Foreign Auxiliary Committee, Dr. Gaskin; Secretaries of Sections, Dr. C. E. Gooding, Dr. Cuthbert Bowen. *Trinidad.*—Vice-President, Surgeon-General S. L. Crane; Member of Foreign Executive Committee, Dr. J. A. DeWolf; Member of Foreign Auxiliary Committee, Dr. F. G. C. Damien; Secretaries of Sections, Dr. Beaven N. Rake, Dr. E. J. Read, Port-of-Spain; Dr. John Tulloch, Tobago. *Jamaica.*—Member of Foreign Auxiliary Committee, Dr. Da Costa.

Reviews and Notices of Books.

ESSENTIALS OF PHYSICS, ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS, PREPARED ESPECIALLY FOR STUDENTS OF MEDICINE. By FRED. J. BROCKWAY, M D., Assistant Demonstrator of Anatomy at the College of Physicians and Surgeons, New York. With 155 Illustrations. Pp. 330. Philadelphia: W. B. Saunders. 1892.

As a rule, text-books on physics are too large for the use of medical students. This work, though simply a compilation from various reliable sources, will consequently prove very useful. It contains all that one need know of the subject, is well written, and is copiously illustrated. The chapters on electricity and light are exceptionally good.

FIRST LINES IN MIDWIFERY: A Guide to Attendance on Natural Labor, for Medical Students and Midwives. By G. ERNEST HERMAN, M.B. (Lond.), F.R.C.P.; Obstetric Physician to the London Hospital and Lecturer on Midwifery; Physician to the General Lying-in Hospital, etc. Pp. 191. With 80 Illustrations. Philadelphia: Lea Brothers & Co.

THE book is designed to give students and midwives such elementary knowledge as is needed for the safe management of natural labor. It succeeds admirably, and contains a large amount of practical information, much of which is original. Among the numerous illustrations are nearly a dozen excellent original ones.

SYPHILIS IN ANCIENT AND PREHISTORIC TIMES. By DR. F. BURET, Paris, France. Translated from the French, with Notes, by A. H. OHMANN-DUMESNIL, M.D., Professor of Dermatology and Syphilology in the St. Louis College of Physicians and Surgeons; Consulting Dermatologist to the St. Louis City Hospital; Physician for Cutaneous Diseases to the Alexian Brothers Hospital; Dermatologist to St. Margaret's Hospital, etc. Pp. 226. Philadelphia and London: The F. A. Davis Co.

AFTER searching a couple of thousand volumes of books, in a half-dozen different languages, for facts about the history of syphilis, Dr. Buret presents the book in hand. It is a most interesting history of the subject, apparently disproving the generally accepted view that the disease had its origin in the famous epidemic of the fifteenth century. The book is not only exceedingly interesting, but it also has its practical side, and the practitioner will find much in it of value relating to the diagnosis and treatment of this too common disease.

A TREATISE ON THE LIGATION OF THE GREAT ARTERIES IN CONTINUITY, WITH OBSERVATIONS ON THE NATURE, PROGRESS, AND TREATMENT OF ANEURISM. By CHARLES A. BALLANCE, M.B., M.S. Lond., F.R.C.S.; Assistant Surgeon to St. Thomas's Hospital, and Joint Lecturer on Practical Surgery in the Medical School; Surgeon to the National Hospital for the Paralyzed and Epileptic, Queen Square; Assistant Surgeon to the Hospital for Sick Children, Great Ormond Street; and WALTER EDMUNDS, M.A., M.C. Cantab., F.R.C.S.; Resident Medical Officer St. Thomas's Home. Illustrated by 10 plates and 232 figures. Pp. 568. London and New York: Macmillan & Co. 1891.

THE book in hand will become a classic. It is on a timely and important subject, and is the fruit of deep and thorough research. Many mooted questions are answered, and it makes a distinct advance in surgical knowledge. Some of the conclusions of the authors are as follows:

The rupture of the coats of an artery is by no means necessary for its occlusion, and the coats not being ruptured, hemorrhage is less apt to follow, although grave pathological changes may be in active progress.

The scar-tissue which occludes the artery is formed, not from the leucocytes of the blood, but from the plasma cells of the arterial wall. These cells do their work perfectly if the vessel be simply occluded.

With respect to the time taken in absorption of the various ligatures, chromic catgut holds the artery for a month or more, kangaroo tendon two months, and silk longer still. Reindeer tendon is about equal to chromic catgut, and peritoneal ligature to kangaroo tendon. Silkworm gut lasts longest of all, but the authors found it not easy to use. They were inclined to favor ox peritoneum, kangaroo tendon, or boiled floss silk.

In regard to antiseptics, they consider perchloride of mercury in solution the best for irrigation, while for dressing they favor Lister's cyanide of zinc and mercury gauze, wrung out in carbolic acid solution (1 to 40). Carbolic acid irrigation causes too free serous oozing, while sublimate dressings are apt to cause irritation of the skin.

With antiseptic precautions any vessel up to the size of the superficial femoral may be ligated by almost any method with success, but beyond that only the method of occlusion of the vessel without rupture of the coats is admissible. Suppuration is very apt to occur in the neighborhood of a great artery, and the consequent dangers are hemorrhage, aneurism, and gangrene. All three are more probable with the coats ruptured or injured than without.

In the matter of printing, the work is the perfection of art. The paper is excellent, the type large and clear, and the cuts and engravings remarkably fine.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN. By GEORGE H. ROHÉ, M.D., Professor of Materia Medica, Therapeutics, and Hygiene, and formerly Professor of Dermatology in the College of Physicians and Surgeons, Baltimore, etc. Assisted by J. WILLIAMS LORD, A.B., M.D., Lecturer on Dermatology and Bandaging in the College of Physicians and Surgeons; Assistant Physician to the Skin Department in the Dispensary of Johns Hopkins Hospital. Philadelphia and London: The The F. A. Davis Co. 1892.

THIS small volume is one (No. 13) of the "Physicians' and Students' Ready Reference Series." It is not intended for the dermatologist, but for the practical every-day work of those to whom this series is dedicated. Little attention has therefore been paid to the theoretical speculations upon pathology and etiology, as is stated in the author's preface. So far, however, as the requirements of the student are concerned, too little attention has also

been paid to those portions of these very necessary branches which are not any longer theoretical, and too much space has been taken up with treatment, which is very useful for the practising doctor, but not so valuable to him who is preparing himself for practice. Some formulæ are given in the text, and sixty-eight are placed together at the end of the book. While for the most part the therapeutical recommendations are very good and taken largely from personal experience, much that is recent and generally considered worthy of mention has been omitted. Treatment by electrolysis is made especially prominent, the author going so far as to recommend it as the method which will succeed best in removing the nodules of molluscum contagiosum "permanently, and without leaving a noticeable scar." These tumors are regarded as of sebaceous origin. One of the best features of the work is a chapter on the cutaneous manifestations of syphilis, to which eighty of the volume's three hundred pages are given up.

There is a good table of contents and index.

A Text book of Physiology. By M. Foster, M.A., M.D., LL.D., etc. Sixth edition. Revised. Part IV., comprising the remainder of Book III., the Senses and some Special Muscular Mechanisms; and Book IV., the Tissues and Mechanisms of Reproduction. Pp. 418. London: Macmillan & Co. 1891.

We recently reviewed Part IV. of the fifth edition of Professor Foster's work. The present volume is larger, and includes more. We have nothing further to add regarding the well known excellences of this text-book; but we confess that the plan of publishing the work in various parts and books is confusing, and might lead to some annoyance. The student should remember to get the very latest, or sixth revised, edition.

Text-book of Comparative Anatomy. By Dr. Arnold Lang, with a Preface by Professor Ernst Haeckel Translated into English by Henry M. Bernard, M.A. Cantab. and Matilda Bernard. Part I., pp. 561. London and New York: Macmillan & Co. 1891.

There is much need of a thoroughly trustworthy and complete treatise on comparative anatomy. Gegenbauer's work has long been out of print, and no other work has appeared to supplement it or fill its place.

Professor Lang's reputation as an anatomist and teacher is sufficient guarantee of the value of his work, even if the success of the German edition had not evinced it. Dr. Bernard's translation is virtually a second edition of Lang's work. It covers the subject of protozoa, metazoa, platodes, vermes, and arthropoda. The book is copiously and carefully illustrated, many of the cuts being from sources not easily accessible to general students. The chapters are accompanied with a bibliography.

We await with interest the appearance of the remainder of the work, which, as dealing with comparative mammalian anatomy, will have more especial value to medical men. The translators have done their work with much pains, and have put the flowing phrases of the German writer into plain English.

A Dictionary of Treatment, or Therapeutic Index, including Medical and Surgical Therapeutics. By William Whitla, M.D., Professor of Materia Medica and Therapeutics in the Queen's College, Belfast, etc. Revised and adapted to the Pharmacopœia of the United States. Philadelphia: Lea Brothers & Co. 1892.

This is an excellent work. The author tells us that it grew out of his attempt to make a therapeutic index to his work on Materia Medica, but which he soon found assuming the proportions of a volume in itself. Each disease is taken up in alphabetical order, and its management, dietetic and hygienic as well as medicinal, clearly and intelligently discussed. Numerous formulæ are given as models and to exemplify the drug combinations, but adapted to the treatment of the disease in question; but the work is by no means a mere formulary. It is a scientific treatise on the means best suited to the cure of disease, and yet eminently practical. While the work is thoroughly original and no compilation, still the author does not insist upon his own views to the exclusion of others; but, after presenting his treatment, gives that favored by other authorities when it differs from his own. The book will be found very serviceable to the practitioner of medicine, whether young or old, serving to refresh his memory concerning old therapeutic methods, and to suggest to him not a few new ones.

Consumption: How to Prevent It, and How to Live with It. Its Nature, its Causes, its Prevention, and the Mode of Life, Climate, Exercise, Food, Clothing necessary for its Cure. By N. S. Davis, Jr., A.M., M.D., Professor of Principles and Practice of Medicine, Chicago Medical College; Physician to Mercy Hospital, etc. Pp. 143. Philadelphia and London: F. A. Davis. 1891.

Dr. Davis has prepared a book that is of great value to physicians, and also to consumptives themselves. It is simply the elaboration of rules and advice he had been accustomed to give to his patients, and is a complete handbook of the subject. He says he hopes much for the future of Koch's lymph and other curative drugs, but at present the best means of battling with the disease lie in the destruction of the sputum, a residence on dry soil in a properly selected climate, pure air, out-door work, exercise, avoidance of over-exertion, proper clothing, bathing, diet, etc. His chapters on climate, relating as they do almost exclusively to America, are of unusual excellence. The book is written in Dr. Davis's clear, concise style, and is so free from technicalities that it is a most excellent work to place in the hands of one's phthisical patients.

The New Cure of Consumption by its Own Virus. Illustrated by numerous Cases. By J. Compton Burnett, M.D. Second edition, revised and enlarged. Pp. 187. Philadelphia: Boericke & Tafel. 1892.

The book in hand is a homœopathic work. The author claims to have used the "tubercular virus" as a remedy in phthisis for the past five years, and claims the glory and fame now given Professor Koch. He obtains his remedy by trituration in spirit of a portion of tubercular lung, preferably taken adjacent to a cavity. This tincture is diluted according to homœopathic principles, and given by the mouth in almost infinitely small doses, at long intervals. Wonderful results are claimed, but the cases cited prove little. In not one of them is physical diagnosis spoken of, and in few of them is the diagnosis of phthisis at all evident.

Diagnostik und Therapie der Magenkrankheiten, nach dem heutigen Stande der Wissenschaft bearbeitet. Von Dr. I. Boas, Specialarzt für Magen- und Darmkrankheiten in Berlin. Leipzig: Thieme.

This is the second edition of the work which first appeared but one year ago. It is profusely illustrated, containing forty-eight woodcuts. Dr. Boas, whose reputation, both abroad and in this country, as a specialist, deserves especial credit for the enlargement and completion of this, one of the best, if not the best, book on diseases of the stomach. The book is divided into the Pathology, Diagnosis, and Therapeutics, and is as valuable to the specialist as to the every-day practitioner.

The chapters on the examination of the stomach contents, the tests for acid, the microscopical examination of different expressed stomach fluids, all deserve especial mention.

Balneo-therapeutics is also thoroughly discussed. The chapter on chemical tests for presence of acids and alkalies in the stomach, and also the importance of urinary

analysis, is thoroughly mastered. Another part, the special diagnosis and therapeutics of diseases of the stomach, will soon follow; and a third part, the treatment of intestinal disorders, will close the work of this author.

MEDICO CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volume the Seventy third. London: Longmans, Greene & Co. 1890.

THIS volume contains the "Transactions" for the year 1890. There are seventeen papers of the usual high order of merit, several of them finely illustrated with lithographic and process plates in addition to figures in the text.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION Volume the Ninth. Edited by J. EWING MEARS, M.D., Recorder of the Association. Philadelphia: William J. Dornan. 1891.

THIS volume contains the report of the meeting held in Washington in September, 1891, in connection with the Congress of American Physicians and Surgeons. The papers have already appeared in abstract in these columns in our full report of the Congress. The President of the Association for the current year is Dr. P. S. Connor, of Cincinnati, and the Secretary, Dr. J. R. Weist, of Richmond, Ind.

FOURTH ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS, held at Buffalo, N. Y., April 30, and May 1, 1891. Chicago: Published by the Railway Age and Northwestern Railroader.

THIS is the first publication in volume form of the proceedings of the Association. It contains, in addition to the papers prescribed at the fourth annual meeting, an historical sketch of the Association's list of members, and sixteen portraits of presidents, present and past, vice-presidents, and other officers.

SURGICAL ANATOMY FOR STUDENTS. By A. MARMADUKE SHIELD, M B. Cantab., F.R.C.S.; Senior Assistant-Surgeon, Aural Surgeon, and Teacher of Operative Surgery, Charing Cross Hospital. New York: D. Appleton & Co. 1891.

THIS is a book that ought to be of great benefit to students in the medical school, and also to practitioners who have been so long away from the school that much of what they learned there has become dimmed and hazy. The author says in his preface that the book is intended for students to use with the living model; but that is no drawback, rather the contrary, for each one can serve as his own model; and if he then read a chapter of this book each night or morning, illustrating it on himself, he will soon find his anatomical knowledge much increased and his operative readiness and skill markedly improved.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. IV. For the Year 1891. Philadelphia: William J. Dornan. 1892.

THIS volume, which contains the proceedings of the fourth annual meeting of the Association, held in this city in September last, is one that reflects credit on the Society. The papers are, many of them, of general surgical interest, and not of value solely to the obstetrical or gynecological specialist.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By W. R. GOWERS, M.D., F.R.C.P., F.R.S.; Consulting Physician to University College Hospital; Physician to the National Hospital for Paralyzed and Epileptic. Second edition, revised and enlarged. Vol. I., Diseases of the Nerves and Spinal Cord. Philadelphia: P. Blakiston, Son & Co. 1892.

THE first American edition of this unexcelled authority on diseases of the nervous system was published only three years ago. It was then in one rather bulky volume, but is now in two, a change rendered necessary by the addition of much newer matter, and a decided improvement as far as the convenience of the reader is concerned. This first volume treats of the diseases of the spinal cord and of the nerves, the subject of general nervous affections and diseases of the brain being reserved for the second volume. The work has been thoroughly revised and largely rewritten, and is copiously illustrated with judiciously selected wood cuts, many of them original. Dr. Gowers's book is one of marked excellence and will long remain an authority. The second volume, it is announced, will appear shortly.

TRAITÉ PRATIQUE ET PHILOSOPHIQUE DU PIED-BOT. Par E. DUVAL, Lauréat de l'Académie des Sciences (Institut de France), Médecin en chef de l'Institut Hydrothérapique et Orthopédique de l'Arc de Triomphe, etc. Préface du DOCTEUR PÉAN, Chirurgien de l'Hôpital Saint-Louis. Paris: J. B. Baillière et Fils. 1891.

THE name Duval is one that has long been associated with orthopedy in France, Dr. Vincent Duval being one of the pioneers in this branch of surgery, the one indeed who introduced tenotomy in France. His treatise on club-foot was long an authoritative work, and now that in the march of time its teachings have become antiquated, its author being dead, it has passed into the realm of classicism. The younger Duval very wisely made no attempt to revise this work and bring it up to the level of modern teaching, but has written a new treatise, and one that seems likely to occupy at the end of the century the position held by his father's work about the middle of this era. The subject of club-foot is very carefully and thoroughly discussed in all points relating to etiology, symptomatology, pathology, and especially treatment. There are upward of fifty wood-cuts of very moderate artistic merit in the book, but this is of small account when the other excellences of the work are taken into consideration.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND. Baltimore: Griffin, Curley & Co. 1891.

THIS volume contains the report of the proceedings of the semi-annual session held at Cambridge, Md., November, 1890, and of the ninety-third annual session held at Baltimore, April, 1891. At each of these meetings there were quite a number of papers read of considerable value and well worth being preserved in the form of the "Transactions."

Electrocution and the Healing Art.—*The Lancet*, commenting upon our remarks concerning the last execution by electricity in this State, says that "these are strong terms, but under the circumstances not one word too strong or too condemnatory. They surely will prevent any further medical participation in these unwholesome deeds. In this country, if medical art were degraded to such participation, the act would not only cause universal indignation against the offenders, but would force the profession at large to raise its powerful and humane voice in repudiation of any and every man in its ranks who dared to take a part in so grave an offence against the national conscience and professional honor."

A Bore-bell.—A Cincinnati physician has a secret office-bell, so says the *Annals of Hygiene*, which he calls a "bore-bell," and he says it is a great thing. When he is tackled by a bore, or when his lady visitors insist upon giving him the history of all their relatives and their ills, the doctor's foot suddenly touches a spring, which rings the "bore-bell," and in rushes a messenger with an important message or telegram. The visitors tedious tale is interrupted, and she or he leaves the office because the doctor is so busy you know. The same message or telegram can be used a great many times, and the doctor's callers never suspect anything.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 23, 1891.

H. P. LOOMIS M.D., VICE-PRESIDENT, IN THE CHAIR.

Carcinoma and Fibromata in the Same Uterus.—DR. GEORGE C. FREEBORN presented the above specimen. The uterus was removed by supra-pubic hysterectomy, by Dr. Clement Cleveland, at the New York Cancer Hospital, on June 15, 1891, the cervical portion being dissected away after the removal of the body of the uterus. The patient was a married woman, fifty years of age, who had no children, and who gave no history bearing on this condition, except that one year before there had been a severe uterine hemorrhage, and about this time she first noticed an enlargement of the abdomen. The mass weighed 2,200 grammes, the circumference at the base was 51 ctm., and its height 19 ctm. The organ was cut through transversely, and showed on examination a large cavity in the body of the uterus, surrounded by six myo-fibromata. The cavity contained only necrotic material, chiefly broken-down, smooth muscle-fibres. The other half of the specimen showed a large fibroid of the fundus of the uterus, and breaking through the capsule of the fibroid was a large fibromatous mass which protruded into the cavity. Microscopical examination showed that the whole length of the cervix was occupied by a medullary carcinoma which had invaded the whole mucous membrane of the lower third of the cavity of the uterus, and had encroached upon the muscular tissue so as to leave only a thin shell of this tissue externally.

Tuberculosis of the Lumbar Vertebræ.—DR. R. H. SAYRE presented the specimens, which consisted of three lumbar vertebræ removed from a child four years of age, who had died of general tuberculosis. When in the fresh state the specimens showed beautifully the early stage of bone tuberculosis, the second lumbar being chiefly involved. At one point the process was just attacking the inter-vertebral cartilage. He also exhibited the left kidney, which was quite large, and its pelvis greatly dilated.

The child was first seen on September 2d, and it was stated that six weeks before this the first symptoms were developed, viz., pain in the head and along the spine, and inability to bend the spine. The family physician, suspecting disease of the spine, called an orthopedic surgeon in consultation, but as the latter considered the case one of malaria, treatment for this affection was begun. Not being benefited by this, the case was brought to Dr. Sayre, who diagnosticated tuberculosis of the spine, and possibly also of one hip. The child at this time was very anæmic, but presented no symptoms except those referable to the spine. There was no abdominal tumor to be felt, and nothing was discovered to account for the contraction of the right hip except the psoas contraction associated with vertebral inflammation. After about six weeks there was a sudden elevation of the temperature to 104° F., accompanied by photophobia, vomiting, and rigidity of the back of the neck, and at the same time an abdominal tumor was discovered a little to the left and above the umbilicus, which felt hard but resilient. The child was given bichloride of mercury for about two weeks. After about three days the meningeal symptoms disappeared. The tumor, however, steadily increased in size, and an examination under chloroform showed it to be freely movable. It was decided that the disease was too extensive to warrant an operation. Death occurred on December 12th. The autopsy showed an enormous mass of glands matting together the upper portion of the intestines, connecting them to the diaphragm and stomach. No small miliary tubercles were observed. There was slight jaundice shortly before death, and this was accounted for by a small band which was found pressing on the gall-bladder. The liver and kidneys were enlarged. There was a large quantity of fluid in both pleural cavities, and one or two nodules were found in the apices of the lungs. Although the first symptoms were referable to the spine, this was found apparently much less involved than the other parts of the body. There had been no kyphosis, simply a lack of the normal hollowing in the lumbar region. Permission could not be obtained to examine the brain and spinal cord, and this was particularly unfortunate in view of the remarkable disappearance of the meningeal symptoms. When the specimen was shown before the Orthopedic Section of the Academy of Medicine, Dr. John Ridlon called attention to the prevailing belief that cases of meningitis which recover were not tubercular, and cited a case in his own practice which had been seen repeatedly by a number of eminent physicians, who agreed in the diagnosis of tubercular meningitis; and yet the boy had recovered, and was still alive.

Tricocephalus Dispar. — DR. T. M. PRUDDEN presented a specimen of the above. He was indebted to Dr. Brockway for the specimen, which he had removed from a subject in the dissecting-room, upon whom an autopsy had already been made. On this account, the existence of similar worms in the bowel could not be determined. Appearing through the skin on the mons veneris, was a reddish elevation, which was at first supposed to be a varicose vein, but which proved to be a filiform worm. Further examination showed it to be the tricocephalus dispar, one of the nematoid worms, in the same family as the trichinæ. It is the so-called "whip worm." Several worms were also found embedded in the muscles of one leg.

Dr. Prudden said that in his experience it was not at all common to meet with these worms, and it was exceedingly rare to find them outside of the alimentary canal. It was usually found with the head embedded in the cæcum. These worms are quite common in Europe; in Paris they are said to be found in about fifty per cent. of the cases examined. Although in this country the bowel is not always examined throughout its entire extent, it is customary to open the cæcum, and hence such worms could hardly be overlooked.

A number of the members stated that they had never met with this worm even in the bowel.

Perforating Ulcer of the Duodenum. — The above specimen was presented by DR. A. T. WESTON. The patient from whom the specimen had been removed was a truckman, fifty years of age, who three days before his admission to Bellevue Hospital had complained of abdominal pain; but this had not been severe enough to keep him from his work. On the day of his admission, the pain had suddenly become very severe. The upper part of the abdomen was retracted, the lower part distended. He died eighteen hours after admission. The autopsy showed a perforating ulcer of the duodenum, situated just beyond the pyloric valve. There was a slight exudation showing the beginning of a peritonitis. The abdominal cavity contained a large quantity of brownish fluid having the odor and appearance of stomach contents. The lungs exhibited the lesions of healed phthisis; the heart was normal; the kidneys were the seat of a chronic diffuse nephritis.

DR. H. P. LOOMIS said that he had presented a similar specimen to the Society some time ago, and had taken occasion at that time to review the literature of the subject. He had found that these ulcers were usually situated three or four inches lower down than in the specimen just presented, and usually at the lesser curvature.

Yellow Fever and Revolutions.—If the belligerent statesmen of Brazil would inaugurate a campaign against the yellow fever, which has desolated a great part of their country, they might win the crown of triumphant statesmanship. It is not an unconquerable adversary. It has been driven from a good many places in the world through the enforcement of sanitary laws by courageous strategists.—*New York Sun.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 25, 1892.

ROBERT A. MURRAY, M.D., CHAIRMAN.

Floating Kidney and Diseases of the Generative Organs in the Female.—DR. J. SCHMITT read a paper with this title. He believed that one woman in ten who came to the gynecologist had more or less displacement of one kidney, usually the right. In examining for this condition the patient lay on her back, with the hips and knees well flexed; then, on pressing with one hand beneath the free border of the ribs, making counter-pressure with the other over the region of the kidney posteriorly, the patient taking a deep inspiration, the walls relaxed, the lower end of even the normally located kidney could usually be felt. During inspiration the kidney slipped downward, and if held during the height of inspiration could be prevented from slipping back during expiration. From simple loosening of the kidney to its lodgement in the pelvis all degrees of displacement occurred.

The author thought it was not necessary to distinguish between movable and floating kidney further than to say that floating kidney implied a high degree of movability. In advanced cases the organ lay in the iliac fossa or at the brim of the pelvis.

Two cases illustrating movable kidney were presented, one of the women having had one ovary removed for dis ease by a gynecologist, who, however, failed to discover the movable kidney. Patients with movable kidney felt best on rising in the morning, but after the trouble had lasted for some time rest in bed ceased to produce relief. Digestive disturbances were common, and there were likely to be manifold nervous disturbances, even unto mental derangement. But it was the author's intention to refer only to those symptoms which might exist in both movable kidney and certain diseases of the generative organs which had a similar etiology. In some persons no symptoms whatever resulted, in others there was a single disturbance, while in still others there might be the entire series of so-called hysterical symptoms. The same experience was had in sexual disorders. Certain genital diseases bore no direct relation to movable kidney, simply coexisting, while others showed a close relation. To the latter class belonged retroflexion and prolapsus of the uterus, cystocele, rectocele, and also chronic inflammations of the uterus and ovaries. To make this relation intelligible, it was necessary to take into consideration the etiology of movable kidney. The two factors on which the author laid most stress were, 1st, a change in the relation between intra-abdominal pressure and the elasticity of the abdominal walls, brought about by loss of flesh, tumors, etc.; and 2d, disappearance of fat about the kidney. Some authors had attributed greater importance to one of these causes, others to another. Several causes might act at the same time, the degree of influence produced by anyone varying according to the case. It was a clinical observation that women in whom the elasticity of the abdominal walls had been diminished by tumors or wasting diseases suffered comparatively frequently from movable kidney. It was equally true that this class of patients were also liable to be the ones to have uterine displacement or disease, cystocele, etc. The change in the circulation brought about by the causes already named still further aggravated the abnormal state of the kidney and generative organs. There was, then, nothing forced in the conclusion that movable kidney and chronic inflammation of the pelvic organs were largely due to the same cause. The influence of hydronephrosis and other special causes of displacement of the kidney were alluded to. They might also be a consequence.

With regard to treatment, it was obvious that he would be most successful who took both diseases into consideration, *i.e.*, movable kidney and whatever disease might exist in the generative organs. In the majority of cases the symptoms due to movable kidney could be relieved by a well-fitting elastic abdominal belt. The benefit was probably due to the support given the abdominal walls. The efficacy of springs and belts with a plate was questionable. Under heavy pressure the kidney was liable to slip down behind the belt. Still, a cushion might be attached to the belt with some advantage. Where other means failed, nephrorrhaphy might be resorted to; that is, fixation of the kidney by suture.

DR. GEORGE M. EDEBOHLS discussed the paper, and expressed the view that usually the chief cause of movable kidney was loss of fat about the kidney. He found movable kidney quite common—say in one out of twelve of all gynecological cases. It was an important factor in the causation of various disturbances in women. The pain was usually referred to the left, while the displacement was usually on the right side. Cardiac palpitation was apt to be marked. Floating kidney gave rise to fewer symptoms than simply movable kidney. In one of his patients whose perineum and lacerated cervix he sewed up and did Alexander's operation upon, the symptoms continued, then he performed nephrorrhaphy on the right kidney, with complete relief, but the symptoms returned when it was found the left kidney had also become movable. In performing nephrorrhaphy he slit the capsule proper and stripped it back half an inch on both sides, exposing the kidney structure the length of the organ, and secured firm adhesion by the extent of granulation surface following suturing of the capsule to the posterior wall.

DR. CURRIER wondered that, if movable kidney was so common, it had not been often discovered during the very numerous laparotomies performed in all parts of the world.

DR. AGRAMONTE thought percussion might be of some aid in diagnosis.

DR. SCHMITT said the pain was usually on the same side as the movable kidney.

Note on the Manual Rectification of Occipito-posterior Positions.—DR. EGBERT H. GRANDIN read the paper. He stated that he disclaimed dogmatism and aimed purely at suggesting recourse to a procedure which it was his conviction would alter the prognosis of, and lessen the dangers attendant upon, persistent oblique or sacro-rotated occipito-posterior positions. He freely granted that the large proportion of cases rotated anteriorly as soon as the occiput reached the pelvic floor, although even here it was at the expense of a tedious labor, and often also at the expense of the integrity of the pelvic floor. A minority of these cases did not engage, although the first stage had been somewhat prolonged and the uterus was becoming exhausted. Here the obstetrician should examine the pelvic brim with the entire hand, and finding the cause of lack of engagement to be—as he usually would—a posterior extended occiput, it seemed advisable, while the conditions were favorable, to rotate manually the fœtus anteriorly. This practice was certainly preferable to instrumentation in the pelvic cavity in the presence of uterine inertia (possibly), or fœtal exhaustion (possibly), or, worse still, a sacral position of the occiput. This argument was simply in line with the improving aim of obstetrics as an art—an aim which justified the deliberate election of each and every obstetric procedure at the most favorable time from the standpoint of both the woman and the fœtus. The clean, educated obstetric hand at the pelvic brim was a source of no danger to the woman, but rather one of positive safety, compared with the alternative to its use, this alternative being possible instrumentation after a tedious first stage of labor, in the presence of a protracted second stage, and with a fœtus held in the vice of a tetanized uterus. The procedure which he advocated was not radical, but simply preservative and conservative. In the instances in which the manœuvre failed, he thought the reason lay in the fact that the accoucheur rotated the head alone and not the entire fœtus.

Persistent Occipito-posterior Position Common.—Dr. Malcolm McLean referred to a recent article in a medical journal by which it appeared that the occipito-posterior position was not common. He believed this was an error, and likely to lead to oversight of a most common cause of accidents in labor. He was convinced that many cases of supposed disproportion between the size of the head and of the pelvic canal, resulting in injury, were really only cases of faulty position; that if the head had been rotated to the anterior position labor would have been normal and easy. An illustrative case was that of a woman who had gone through a number of confinements, all requiring embryotomy or craniotomy except one, in that instance a child being born without interference. This convinced him that the pelvis was large enough, and during his own sickness he instructed his assistant, who attended her in her last labor, to examine for the occipito-posterior position, rotate, and probably no difficulty would be experienced. It so proved.

Persistent Occipito-posterior Position Rare. — Dr. Marx said the article to which Dr. McLean had referred had been written by himself, and the opinion expressed that persistent occipito-posterior position was rare was in accord with his own practice and that of a colleague who had seen many women in confinement.

Dr. A. H. Buckmaster had found that comparatively few doctors recognized the occipito-posterior position even when it existed, at least before the head had become engaged. In the majority of cases he had succeeded in maintaining the occiput anterior when rotated; sometimes it had returned. Results would be far better if manual correction were made.

Dr. J. C. Edgar approved of manual rectification, although he had had little occasion to practise it.

Dr. Jarman had seen three cases of occipito-posterior position with attempted rotation by hand, all with Dr. Coe. They had been unable to keep the head in the corrected position, and finally had resorted to podalic version.

Rotate the Child.—Dr. Ralph Waldo said that it was necessary not only to rotate the head, but also the body of the child, if one would not have recurrence of the faulty position.

Dr. Currier had been unable in one case to maintain the head with the occiput anterior after rotation, and had had to do version.

Dr. Brooks H. Wells agreed with Dr. Marx, that persistent occipito-posterior position in well-treated cases was rare. He had seen only four cases of occipito-posterior position, and in all had rotated successfully, either by hand early, or afterward by forceps.

The Chairman quite agreed with the author. He said it was evidently impossible to rotate the head with the hand after it had entered the pelvis, and as injurious consequences had often attended this position we should attempt to rectify manually before the head had become faultily engaged. Reference was not now made to cases which during the first stage gave no trouble, were not delayed; but to those which during this stage behaved unusually and called for examination. Then the head being found with the occiput posterior, it should be rotated. The introduction of the hand was necessary, and would enlighten one as to the relative size of the head and canal; necessity for any operation would enable one to do version, if necessary, or to rotate if that were sufficient. The position rarely persisted to the end, it was true, for the forceps usually converted it into the anterior at the outlet, but probably with a laceration.

Dr. Grandin said he had expected to hear more opposition to manual rectification. It had happened that he had seen a good many cases of occipito-posterior position. He thought it likely others had sometimes overlooked it. Nothing was more disagreeable than to be called to a case in which the head had become impacted in the pelvis with the occiput posterior. He impressed the necessity for rotating the body along with the head in manual rectification. As to high forceps, he would prefer podalic version.

SECTION ON SURGERY.

Stated Meeting, February 8, 1892.

Joseph D. Bryant, M D., Chairman.

Injuries of the Extremities.—Dr. Thomas H. Manley presented several patients in illustration of a paper which he read later. One was a man whose foot had been crushed and badly mangled in a street-car accident. The big toe had escaped much injury, and by using the skin and flesh on this to fill in the gap, he was able to avoid an amputation above the ankle, simply taking away the metatarsal bones and phalanges. The patient had a useful stump, although it was yet somewhat sensitive. The second case was one of foot crushed while getting off a train, only the little toe being spared. The remaining metatarsal bones and phalanges had to be removed. The man walked with scarcely a limp. The third patient presented was a carpenter, whose foot was crushed by a heavy timber. Consecutive amputation, instead of primary amputation, was resorted to, whereby all the tarsal bones were saved. One bone not being covered by skin, a secondary operation would have to be resorted to in this case. Still another like case was presented, and finally a boy, who had sustained a compound fracture of the radius in a dynamite explosion. He had been sent to Dr. Manley for amputation, but the hand and arm were saved by simply resecting the necrosed bone.

Ligamentous (Fibrous) New-Formation after Excision of the Elbow.—Dr. Charles A. Powers presented the specimen, which was obtained at autopsy from a young woman, who had died recently of pneumonia. She had had tubercular manifestations, and five years ago Dr. Wyeth had excised the knee for tubercular disease, obtaining a good result. Two years ago Dr. Powers excised the right elbow, taking away the humerus to above the condyles and a little of the radius. These parts were thoroughly disorganized, as were also the ligamentous structures. The patient regained good use of the joint, having considerable power in flexion, but weak extension. The specimen showed nicely the new ligamentous, or rather fibrous, structures.

Conical Stump Following Amputation in Children.—Dr. Powers also presented some specimens illustrating conical stump following amputation of the arm in children. The first was the conical stump amputated by Dr. Weir recently, in the case of a boy whose arm had previously been amputated for some injury. Dr. Furgeson had examined it, and stated that the sharp point of bone projecting through the skin had apparently come about by physiological elongation of the bone, producing pressure on the soft parts. This corresponded to the explanation given of these cases by Dr. Powers, in a paper once read before the Section. The other specimens illustrated the same condition. It taught us to make a long flap, and to inform the parents of the possibility of a conical stump forming later.

Dr. Powers also presented a melano-sarcoma removed from the lower jaw of a child.

Operation for a Case of Old Dislocation of the Inferior Maxilla.—Dr. R. H. M. Dawbarn presented a man who had been sent to him by Dr. Fitzgerald, of Bridgeport, for irreducible dislocation of the lower jaw of more than a week's duration. Some time before, the man had sustained a scratch by a nail, but became firmly impressed with the idea that he would suffer from lockjaw. After a time he was taken with tetanic spasms affecting a number of groups of muscles, but especially the depressors of the jaw. Antispasmodics had little effect, and the symptoms did not subside before the seventh day. Even during sleep the mouth remained open. The jaw did not return to its place, and an attempt was made to reduce

it, for now dislocation was suspected. Dr. Bacon and other distinguished men in the East failed, even with chloroform, and when the patient was brought to Dr. Dawbarn he did not repeat these attempts, but proceeded with an operation. This consisted in dividing the masseters just below the zygoma, pretty nearly their entire width, until the condyles were reached in their false position. Then efforts were made at reduction, which succeeded. Union took place by first intention. A short time before, a similar case was brought him, and he succeeded in making reduction after division of the masseter on one side only, but in the present instance his attempts failed until both masseters were cut. The only other case which he knew of had occurred under his partner, Dr. Brockway, while at Johns Hopkins Hospital. He had found no case recorded where dislocation of the jaw had been brought about by tetanus, but there were some where the cause had been convulsions or epilepsy.

After some discussion on these cases by Dr. Fitzgerald, the Chairman, and others, Dr. Manley read his paper:

Timely Consecutive Amputation or Resection in Serious Injuries of the Extremities.—Dr. Manley had stated elsewhere that primary amputation should not be resorted to in saving life unless all the important parts had been destroyed. When the parts were only extensively shattered without destruction of tissue, nothing was lost by waiting. Indeed, primary amputation was called for only in very exceptional cases. The principle of preservation should always be borne in mind. He had seen no ill-effect consequent on delay, whereas he had seen parts needlessly sacrificed by primary amputation. Besides the patients presented the fore part of the evening, he had had one case of bullet injury shattering the humerus, two of shattered tibia, and others, in which useful limbs were given by resorting to excision instead of amputation. Except where there was pus formation, he warned against the use of bichloride solution on bones, because of its irritating and injurious effects. He employed clear water. It was especially desirable when possible to avoid amputation to save important parts during the period of growth.

Dr. Manley emphasized the need of saving the periosteum. Besides objecting to primary amputation, except in rare instances, he also impressed the importance of sparing all tissues possible, and particularly to avoid important articulations.

Dr. Dawbarn thought that Macewen had shown that while periosteum was important, yet the life of the bone might be saved without it. The introduction of decalcified bone where there was a gap was better than some other methods.

Dr. Reginald Sayre and Dr. Kammerer thought it was a well-established rule in surgery to save what one could, and Dr. Kammerer said he would apply the same rule in adults as in young subjects. As to primary amputation, if it could always be determined beforehand whether the parts were going to become gangrenous, the question would be made very simple. Secondary amputation, should it become necessary, might result in loss of life because of established sepsis, while primary amputation might have saved the patient As to an injurious influence of antiseptic solutions on the healthy tissues, he had not observed it.

Dr. Brockway said, with regard to saving all parts possible, that he had seen cases where too much had been saved, necessitating a secondary amputation because of the parts being in the way.

Dr. R. W. Townsend said that many patients came to the Hospital for the Ruptured and Crippled for whom instrument makers found it difficult and expensive to properly fit an apparatus, due to the fact that the surgeon had tried to save too much.

Dr. Arnold thought that where a man had to make his living, a greater risk to life might be taken in trying to save more of a limb.

The Chairman had always taught that as much should be saved as possible if it were useful. The surgeon should always aim to make a limb which would best serve the purposes of the patient. Like Dr. Dawbarn, who had just related an experience, he had seen cases in which the Mikulicz amputation had failed from a practical standpoint

Dr. Manley, in closing the discussion, said that Macewen's ideas regarding the periosteum were heretical, for he had told him (Dr. Manley) that he did not believe it possessed any power whatever in reproducing bone. The speaker had no confidence in the introduction of decalcified bone to fill gaps. Regarding age, he simply wished to state that the surgeon could accomplish more in the young than in advanced life.

Senn's Hydrogen Gas Test.—Dr. Dawbarn read a brief paper on this subject. He believed the profession generally in New York City did not approve of the gas test for perforation of the bowel, and, so far as he knew, it had not been practised on any living person in the city. Yet, since it had been resorted to in diagnosis elsewhere, he thought it worth while to narrate some experiments which he had practised on the cadaver. Having shot into the abdomen, he then pumped hydrogen into the rectum with the Davidson syringe, and held a torch over a tube penetrating the abdomen which would light the gas and give rise to a blue flame should any gas escape. All but two of twenty-two tests succeeded. In only three did the gas burn before there was marked distention, which showed that had the subjects been living the test would not have succeeded until the pressure had become so great as to interfere with respiration. In one of the cases of complete failure hard scybala occluded the opening. The other failure was due to the fact that the bowel had not been perforated. These and other experiments had led Dr. Dawbarn to the conclusion that when the abdomen had been penetrated above the umbilicus by a ball as small as 22-calibre it would be better not to operate, for some hours at least, but to give opium to prevent peristalsis and afterward salines; the reason being that in this locality the thickness of the bowel was likely to be such as to secure occlusion of the wound by swelling and plastic exudation. The patient was more likely to recover without exploratory operation than if the full length of the gut were searched for the opening, which might be necessary before it could be found. But if the bullet entered below the umbilicus, where the gut-walls were likely to be so thin as to preclude occlusion, however small the missile, one should always operate, and of course the use of the gas in this instance would also be uncalled for. Besides the danger of driving fæces into the peritoneal cavity, of causing undue pressure, of opening a wound which had been closed by swelling and exudate, there was a further objection to the use of the hydrogen gas, in that just the right mixture of it with oxygen might cause an explosion within the abdomen. This accident occurred in one of his experiments and was witnessed by several physicians. As usual, five minutes had been allowed to elapse after beginning the introduction of the gas into the rectum before the torch was applied to the tube leading into the abdomen, when an explosion occurred, evidently within the abdomen, the flame disappeared, and the distended walls fell back. The test was repeated, and twice more an explosion ensued. He did not doubt but what it would have proven fatal in the living subject. While objecting to any gas test, the author said he would prefer oxygen to hydrogen, since its use would be unattended by the danger just mentioned, and it had the advantage of being a cardiac stimulant and was rapidly absorbed by the blood.

Dr. Coley referred to Senn's paper on the subject, presented at the International Medical Congress, and to his own upon "Gunshot Wounds," printed in the *American Journal of the Medical Sciences*, and said he thought the objections to a gas test of any kind had been shown to be real.

Dr. Powers was glad to hear this vigorous protest against a measure which he believed had not been seriously considered in this city. As to the author's view that in wounds above the umbilicus it would be well to wait twelve or fourteen hours, he thought this was contrary to the teachings of most surgeons of New York, who advocated exploratory laparotomy in all cases.

Dr. Agramonte thought the same objection to the use of the hydrogen gas, including that of danger of an explosion, would also apply to oxygen, for the latter coming in contact with the hydrogen gas within the gut might likewise cause an explosion.

A Pioneer with the Gas Test.—The Chairman said that about two years before Senn came out with the hydrogen gas test he had made some experiments on the cadaver with atmospheric air. Two facts which he then encountered led him never to apply it on the living subject. They were, danger of driving liquid fæces out of the intestine into the abdominal cavity, and the overdistention of the gut, which would render its replacement very difficult after laparotomy.

Dr. Dawbarn thought Dr. Agramonte's objection to the use of oxygen gas, that it might also form an explosive mixture, was well founded, although the amount of hydrogen within the intestine was not likely to be sufficient to in any way magnify this danger. He was convinced that he stood not alone in the view that one should wait awhile before making exploratory puncture, if the ball were small and entered above the navel.

Permanent Preservation of the Records.—The Chairman made some suggestions with regard to the best way for permanently preserving the records of the Section, and the members were requested to submit to the Secretary a condensed report of cases and papers which they might present at the meetings.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BACTERIOLOGY OF VACCINE LYMPH—THE VALUE OF RAPID DILATATION OF THE UTERUS IN DIAGNOSIS AND TREATMENT—DEATH OF SIR WILLIAM BOWMAN, BART.—MR. LAWSON TAIT IN THE LAW COURTS—THE EDINBURGH UNIVERSITY SCANDAL.

London, April 2, 1892.

At a recent meeting of the Epidemiological Society, Dr. Monckton Copeman read a paper on "The Bacteriology of Vaccine Lymph," in which he gave an account of some recent researches which he had made. He remarked that some, reflecting on the failure of all attempts at the extra-corporeal cultivation of the virus, had suggested that it was not an organism but a chemical substance or euzyme. With a view of deciding this question he had repeated the experiments of Cohn and Burdon-Sanderson, from which they had concluded that the activity of the lymph resided in the solid particles rather than in the fluid portion. He did not consider his results conclusive, but he thought that the fact that the virus was reproduced in the living body through an indefinite series of transmissions was sufficient to prove that the active agent must be a living organism capable of self-multiplication. The immediate cause of the phenomena might be—and probably was, as in other diseases—a product of the microbes present in the lymph, but it could not be merely a chemical substance the quantity of which must be limited. In the hope of identifying the nature and action of the several bacteria he had undertaken a number of culture-experiments with calf-lymph. The inoculations were invariably followed by luxuriant growths—a feature common to all being that the parts of the growth most exposed to the air presented a marked coloration, more or less yellow or orange, especially in gelatines. Plate cultivations enabled him to identify: 1, Micrococcus pyogenes aureus; 2, M. cereus flavus, and 3, M. albus, or epidermis. He also thought he had obtained streptococcus pyogenes. Inoculations with pure cultures of these on human beings, calves, and rabbits only produced trifling inflammation, and nothing in the least degree resembling vaccination (one rabbit died from septicæmia after a free inoculation with a mixture of all four). Thinking that possibly the luxuriant growth of these might have destroyed the specific organism, he employed the method by which Kitasato had successfully eliminated foreign microbes and isolated the bacillus of tetanus, viz., subjecting the tubes to a temperature of 60° C. for various periods and making plate cultivations therefrom. His results were negative, and inoculations of calves with lymph from the tubes thus treated, and with fluid from the alkali-albumin, were equally unsuccessful, showing that the specific microbes, if any, had also been killed. He had confirmed Dr. Husband's observations that the activity of vaccine lymph was not impaired by exposure to a temperature of 33° C.

A remarkable result was observed in the inoculation by Dr. Cory of a calf with lymph that had been subjected to a temperature of 48° C. No vesiculation followed, but the animal proved refractory to subsequent inoculations with fresh lymph of ascertained activity, showing that a degree of immunity had been conferred—possibly by the products of a microbe which had itself perished. Such a method would naturally preclude continuation by arm to arm vaccination, but it certainly seemed that lymph heated to 40° C. only, and thus freed from the organisms he had described, was considerably more energetic than fresh lymph, for the calf that, after inoculation with superheated lymph, had resisted the effects of fresh lymph of proved activity, yielded to a subsequent inoculation with the lymph thus "purified," exhibiting five well-developed vesicles. Dr. Copeman said he had found that the cloudiness that constantly appeared in stored lymph with impairment of its potency was due to an "aërobic" organism present in the lymph from the first, though in minute numbers. Careful exposure of the lymph to a regulated temperature checked or arrested the growth of this organism, and thereby enhanced the potency of the lymph, but always involved the risk of overdoing it and thus impairing its activity. The desired result could be attained by the simpler and safer process of dilution with a fifty per cent. solution of glycerine, even to the extent of twice or thrice its volume. Glycerine was known to act injuriously on many pathogenic organisms and had evidently the effect of inhibiting the growth of these "aërobes."

At the last meeting of the Medical Society Dr. Amand Routh read a paper on "Rapid Dilatation of the Uterus for Diagnosis and Treatment in cases of Uterine Hemorrhage," which was freely discussed. Dr. Routh urged that where there was profuse menorrhagia—and especially where metrorrhagia was also present—without obvious cause, the cavity of the uterus should be explored. Out of fifty-two cases, forty-two (eighty-one per cent.) were found to have a removable intra-uterine condition accounting for the hemorrhage. The best way of exploring the uterine cavity was to rapidly dilate the cervix with graduated bougies under anæsthesia. With rigid antisepsis there was practically no risk, and very rarely any subsequent pyrexia, unless malignant disease or salpingitis were present. Even where tubal disease was present or suspected, exploratory dilatation of the cervix for metrorrhagia of apparently intra-uterine origin was not necessarily contra-indicated, as salpingitis was often secondary to and aggravated by intra-uterine disease (antisepsis was here all-important). Where uterine fibroids were evidently present the immediate cause of hemorrhage might be a removable one, such as a co-existing polypus or a fungous endometritis, and therefore the uterine cavity should, when practicable, be explored before removal of the appendages or hysterectomy was entertained. In some cases dilatation alone sufficed to greatly relieve both the

hemorrhage and the pain. Dr. Routh also thought that if an exploratory dilatation were more often adopted prior to the employment of Apostoli's treatment, it would tend to a more exact knowledge of applicability of that mode of treatment and put its use on a more scientific basis.

Mr. Doran said the first thing to be satisfied of was the presence or absence of endometritis. The danger of this was its extension to the tubes and peritoneum, and the great advantage of dilatation and diagnosis was that many diseases to which women were liable could be thus nipped in the bud by suitable treatment. The difficulty with the uterus was that there was some of its membrane cast from it every month, but precisely how much no one knew; it was thus very difficult to say what was morbid and what was not.

Mr. Knowsley Thornton said he was sure of the value of antisepsis, but he did not see why antiseptics were all-important in pyo-salpinx cases, because in those it was impossible to protect the woman from sepsis. He quoted a case of fungous endometritis which had, for want of dilatation, been diagnosed as uterine carcinoma; hysterectomy had been proposed and would probably have been carried out but for an independent opinion which was obtained when the uterus was dilated and the condition diagnosed.

Dr. Hayes said he agreed with the author's general conclusions. He had only met with accident in rapid dilatation in one case and in this rupture of the uterus occurred and death ensued; the uterine tissue was found to be extensively degenerated, and he regretted not having used a sound beforehand, which might have revealed the condition.

Dr. William Duncan thought rapid dilatation was preferable to gradual, and less risky—except in malignant disease of the fundus. He thought the uterus should be fixed with a vulsellum, as a case had been recorded in which the organ had been torn from its connections where dilators alone had been used. Operations for the removal of the appendages ought always to be preceded by preliminary dilatation. He related a case in which, having neglected to dilate the cervix, he removed the appendages for fibroid without stopping the bleeding; on subsequent dilatation he found a pedunculated fibroid as large as an orange, which he removed with the écraseur, with the result that the hemorrhage almost entirely stopped, though some intramural fibroids still remained.

Dr. John Williams did not think there was as much septic risk with tents as had been suggested. Rapid dilatation by bougies was better when pregnancy had recently occurred, but in women who had not been pregnant for a long time the risk was very great. It was not necessary to dilate a uterus for diagnosis so that a finger could be passed into it. Endometritis, for example, could be easily told by the way in which a sound passed gently over the surface of the mucous membrane produced hemorrhage.

Dr. Heywood Smith agreed that in many cases it was not necessary to go beyond a No. 18 in dilating. The operator himself should certainly hold the uterus, in order to estimate the resistance. He advocated the employment of Bell's dredge curette. Dr. Heywood Smith mentioned a case of pyo-salpinx, in which the whole tubeful of pus emptied itself into the uterus during the catamenial discharge; dilating and curetting might, perhaps, be of value in such cases.

Dr. Horrocks said there were cases in which dilatation of any kind was injudicious, and others—such as those in which the patient had not been pregnant for some time—in which it was better to use laminaria tents which had been soaking in absolute alcohol containing corrosive sublimate.

Dr. Champneys thought too much had been made of the idea that Hegar's method was the only antiseptic one. A laminaria tent could, with care, be made not only harmless, but the vehicle for the introduction of some antiseptic.

Dr. Lewers thought, rapid dilatation was not a method of universal applicability, but that it was of especial value where dilatation was required at no long time after a confinement, or miscarriage, or in cases of molar pregnancy. In cases apart from pregnancy, or in those who had never been pregnant, rapid dilatation often meant laceration, and for such cases dilatation by means of asepticized laminaria tents was preferable.

Dr. Amand Routh then replied and said he did not consider it safe to hurry too rapidly over the smaller sizes at the beginning of the process. Most cases could be diagnosed when the size of No. 15 Hegar was reached, and be only dilated further for operative purposes.

By the death of Sir William Bowman, the acknowledged head of British ophthalmology passes over to the majority. Sir William Bowman's professional career extended over more than half a century, and during the greater part of this period he was engaged in active work. His earlier research work was mainly histological, and especially in relation to the structure of muscle, of the kidney, and of the eye. "Bowman's sarcous elements," "Bowman's membrane," and "Bowman's capsule," are terms which survive as proofs of his original work in these regions. His later work was almost entirely devoted to ophthalmology, in which department he early attained a leading position. He took part in the evolution of modern ophthalmology, and his eminent services to the specialty were recognized by his unanimous election as first President of the Ophthalmological Society when the latter was formed in 1880.

Mr. Lawson Tait is very outspoken, and his candor has recently landed him in the law courts. Mr. Tait operated on a patient who had previously been subjected to electrical treatment. The operation proved fatal, and Mr. Tait thereupon wrote a letter imputing the result to damage to the tissues from sloughing caused by the electrical treatment. The doctor previously in charge of the case sued Mr. Tait for libel, but the matter was settled in court after some evidence had been given, by the withdrawal of all imputations on either side.

Professor Rutherford, of Edinburgh, has got into trouble with his assistant again, and the latter (Dr. Haycraft) is leaving—or rather, has been dismissed—as occurred with a preceding assistant. Professor Rutherford is obtaining an unenviable notoriety for his conduct, which promises to create quite an academic scandal.

PATHOLOGICAL LANGUAGE.

To the Editor of the Medical Record.

Sir: Although so much time has elapsed, allow me to add some facts and inferences, drawn from an experience of more than twenty-five years in the investigation and treatment of speech defects, to the article by Lillie E. Warren, M.D., in the Medical Record of February 21, 1891.

Several cases similar to those described by her have been under my care during the past few years. The most marked case perhaps was that of a boy nine years of age. Some of the vowel sounds were imperfect. He could not raise the back of the tongue to form hard *g* and *k*, or the tip to form the linguals, or draw back the tongue for the *s* and *z*, or bring together the underlip and upper teeth for *f* and *v*. Indeed every attempt at articulation was a failure. He had centred all his efforts to speak in the tongue, which in consequence had become much too large from over-exercise, and protruded beyond the lips. The result of ineffectual attempts in articulation was a peculiar language of his own, and in his way he talked incessantly and very rapidly; but while he understood all that was said by others, his own speech was wholly unintelligible except to his little sister, who understood him perfectly, and his mother to some extent. He was a very bright boy, learned rapidly, and as soon as he could talk well was much given to argument. He made us all aware of the faults of our language as we had never been before. When first acquiring a sound he was

inclined to use it constantly, as in hard *g* and *k*. Dog was *gog*, and take was *kake*, and so on. At first he alluded to himself in the third person, and omitted verbs and connectives. Most of his peculiarities are common to all that I have seen having this affection.

In some cases, not so extreme as this, where one articulation was substituted for another, the pupil would at first use both the acquired and the original sound; for instance, when "the" was called *me*, and "run" *lun*, at first it was *thme* and *rlun*. A boy staying with me now said *in* for is, and in learning called it *ins*, and it was only after much training that he was able to drop the *n*, so difficult it is to forget old habits. This same boy, sixteen years of age, was able to say but very few words, and the light on his face when he first said: "I do not know," and realized it was an answer to a question, was worth seeing. Most of these persons, though generally active, are in certain directions very helpless.

One could not dress himself without assistance, and would fall on the street if a very slight obstacle came in his way. The movements of another were like those of an old man, but as they learn to talk this strange helplessness disappears.

Among the vowels the long *i* is most likely to be deficient, and is usually sounded like *a* in arm. In some cases the final consonant is omitted. One girl talked like this: "Ah lĕ mah bă i ton" (I left my bag in town).

The conclusion in regard to the cause of this difficulty is that, as articulate sounds are not automatic, but must be learned by imitation, those born deaf or deficient in imitative power will not succeed in forming articulations except through special training.

The lisp, or the omission of the *r*, or the substitution of any one sound for another, are but slight symptoms of that which, exaggerated, causes the whole speech to become unintelligible, and which is stammering in the true sense of the term. Stuttering is muscular contraction at some point or points above the diaphragm, which hinders or stops the breath. Stammering and stuttering are often combined in the same individual.

A marked case was that of a boy, five years of age, who was under my care. He was unable to form some of the articulations, and it was very difficult for him to put any of them in the right place. *R* might be *w* or *l*, and long *i* was *ou*, as in out. One of his sentences was, "*Il i woup?*" (Is it ripe?) But his serious trouble was in the contraction of the throat muscles, which very frequently stopped the speech altogether. In a year's time the difficulties were all removed, but the conditions were so sharply defined in the beginning that it was fortunate his case was not neglected until they had become fixed. He was a remarkably bright boy, and at that early age so sensitive in regard to his speech as to be unwilling to speak to any stranger, though naturally inclined to be social.

The peculiar sensitiveness which attends most speech defects often becomes a mental disease, and is a serious complication. We may give as a general cause of stuttering that most persons speak with more or less unnecessary contraction at the points of articulation and in the throat muscles, acquired when learning to talk and by subsequent direct practice The corrective force of nature holds most persons inside the stuttering limit, but some temperaments are easily carried over, and then it is not easy to predict the end.

The children, both boys and girls, are taught to talk by women, most of whom speak with marked throat contraction, and in an abnormally high pitch of voice. Three boys stutter to one girl. May we not find the reason here? Many stutterers give evidence of chorea caused by the contraction. If the majority of persons talk under stuttering conditions, may not these conditions be at the bottom of a great deal of so-called nervousness? I should like to know the views of others upon these points.

E. J. E. THORPE.

NEWTON CENTRE.

"THE COST OF A NAME."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of April 16th, under the heading of "The Cost of a Name," the editor of the MEDICAL RECORD was kind enough to quote an article of mine which was published in the *Therapeutic Gazette* for March. I write to state that I was unintentionally in error in regard to the relative price of diuretin (Knoll) and sodio-salicylate of theobromine. My error arose from the fact that the firm that sold me sodio-salicylate of theobromine charged me, through an error on their part, but thirty cents an ounce, when in reality they should have charged me a price identical with that charged for diuretin (Knoll) by McKesson & Robbins.

I understand that both products have been reduced very considerably in cost, and write this note to explain how the error occurred.

Very truly yours,
H. A. HARE, M.D.

PHILADELPHIA, PA.

ETHER AS A STIMULANT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your number for April 2d, I observe that in a paragraph headed "Ether as a Stimulant in the Temperance Hospital," you reproduce the substance of an "Annotation" in the *Lancet* quoting and commenting upon an anonymous letter in a London evening paper. Had the *Lancet* taken the precaution, before circulating a slanderous statement, to inquire into the truth of the charge advanced, it would have learned that at the meeting referred to, the allegation as to the use of ether instead of alcohol in this hospital had been conclusively rejected. The truth is, that very little ether, apart from its employment as an anæsthetic, is administered in this hospital was established to test, fully and carefully, the non-alcoholic treatment of disease, the medical staff are authorized to use alcohol when they regard it as necessary. Ether is employed as an anæsthetic, but otherwise is seldom administered, probably with less frequency than in other general hospitals.

The *Lancet* has inserted a correction of the mis-statement to which it gave such unfortunate currency, without making any inquiry upon the point.

I am, sincerely yours,
DAWSON BURNS, D.D.,
Hon. Sec. London Temperance Hospital.

AN EXPLANATION FOR SOME HIGH TEMPERATURES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A case is recorded in your last issue in which the temperature registered 116° F., and the mercury would have risen still higher had not the thermometer broken.

Other similar cases of extraordinary high temperature, exceeding by several degrees that of Dr. Alexander, are on record, attested by most careful and reliable persons.

It would seem quite impossible that any morbid process could cause so great a degree of bodily heat, or, in fact, that an individual could survive if subjected to it.

The most natural explanation of these cases is, that the observers have been deceived, or that their thermometers were unreliable. Yet they may be right.

It has occurred to me that the mercury may have been driven so high by mechanical pressure on the bulb of the thermometer.

In these cases, as far as I remember, the temperature has been taken in the axilla. It would not be a difficult matter for the patient, perhaps undesignedly, to compress the bulb with a good deal of force. If the glass were very thin and elastic, the mercury would be driven to the extreme end of the tube and the thermometer broken.

That an apparent rise in temperature will be so pro-

duced may be proved by pressing the thermometer bulb between the thumb and fingers, when the mercury will be seen to ascend several degrees.

WOOSTER BEACH, M.D.

NEW YORK.

New Instruments.

A SATISFACTORY TONGUE DEPRESSOR.

BY CHEVALIER Q. JACKSON, M.D.,

PITTSBURG, PA.

THE instrument to whose manipulation the hand has become habituated is the one that seems most perfect. If laid aside and another used for awhile, the first then seems awkward. Yet to depend on practice to gain skill with an instrument of defective construction is a mistake. The writer has more than once succeeded in getting a good view of the naso-pharynx in the rhinal mirror where others had failed—and he got it, not by superior skill, but by the use of a superior tongue depressor.

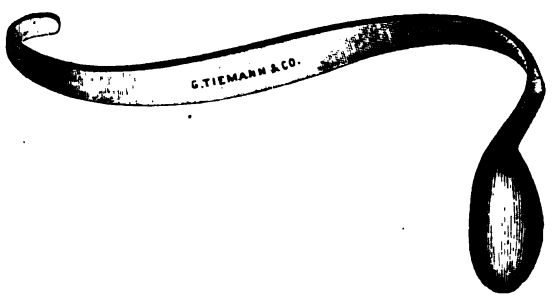
Nothing could be more awkward than many of the instruments sold under the name.

The requirements of a good tongue depressor are these: It should be simple, light, aseptic, comfortable for patient and operator. It should be of such construction that with it the tongue may be not only depressed, but drawn forward away from the posterior pharyngeal wall, thus to a great extent preventing retching. It ought to be narrow enough in the blade to go down between the two sides of the arch of the inferior maxilla without touching the alveolar process, and yet not so narrow as to slip sidewise when held by a patient with an obstreperous tongue, nor allow the lingual margins to curl up.

An ordinary spoon- or silver fork-handle, or a paper-knife answers some of these requirements; and for simple inspection of the fauces at the patient's house they have the advantage, especially in infectious cases, of avoiding the necessity of either troublesome cleansing or carrying home an infected instrument. But both a spoon and a paper-knife are out of the question in posterior rhinoscopy. Türck's depressor comes nearer than others to fulfilling all requirements, especially where the patient himself is called upon to hold it. But this is a clumsily constructed instrument. As ordinarily sold it is heavy; the blade is too wide to go down between the alveolar processes of the lower jaw without touching; the portion of the instrument coming out over the teeth is thick and too highly arched; the corrugations on the under surface of the blade collect infective material, and even with their aid the instrument will not draw the tongue as far forward as is desirable. The handle being made of horn or hard rubber, the instrument is soon damaged by immersion in boiling water. (This latter objection the Messrs. Tiemann tell me they overcome by "vulcanizing on" the hard rubber, insuring against separation of the handle.)

Of the other tongue spatulæ, those with hinges cannot be readily made either æsthetically or aseptically clean, and are not easily held by the patient. A hinge is no advantage anyway, for no practitioner who thinks anything of his patients, himself, or his family will carry about his person a tongue depressor—least of all one with a hinge wherein to collect infection. Instruments made entirely of hard rubber are distorted by immersion in boiling water, also by dry heat; and chemical sterilization is in any case unsatisfactory. In nose and throat work it is impossible to be thoroughly aseptic in our manipulations, but our instruments ought to be such that we are able to prevent the conveyance of infectious material from one patient to another. Twice the writer has examined at his office acute throat cases that proved to be incipient diphtheria. Had he not used a depressor the sterilization of which he could be certain he would have felt it his duty to destroy the instrument.

The general outline of this new instrument is seen in the cut. It is smoothly made of a single piece of steel, nickel plated; it is light, simple, and readily sterilized by immersion in boiling water. It has a sufficiently narrow blade, not roughened, but deeply concaved beneath, thus holding the moist tongue by atmospheric pressure that attaches it so tightly that the tongue may be drawn forward away from the posterior pharyngeal wall, thus to a great extent preventing retching. (In very sensitive fauces, slightly warming is a further preventive.) The portion of the instrument coming from the blade out over the teeth is thin and flat, and deviates to the right corner of the patient's mouth; thence it curves downward, forming a long handle well curved up into a hook below, to prevent the patient's hand slipping. After the operator has placed a depressor in position, the patient can depress his own tongue better than the operator can do it for him. For this way this new instrument is superior to all others (about twenty different patterns) tried by the writer. In position, it is easily held by the patient, and lies very flat and out of the operator's way, giving the maximum of available working space. For posterior rhinoscopy it is very satisfactory, as it draws the tongue forward, thus enlarging the oro-pharyngeal space. For this the patient is directed to push slightly forward on the handle.



The instrument is made in two sizes, the larger one for general use, the smaller for the small mouths of many women and most children. Those who do much nose and throat work will need both sizes. The smaller instrument the writer has found to be a constant necessity; but it will not do for large tongues. The average depressor to be had in the shops is worse than useless in children, on account of its wide blade.

The writer once had a patient with a roomy pharyngeal space draw downward on a Türck spatula in such a manner as to force the blade down back of the tongue, jamming the epiglottis tightly shut, threatening suffocation for a few moments. Such things are unpleasant, but they are impossible in the just-described depressor, which has the advantage of a shank going down behind the teeth, yet cannot get too far. In its low cost, cleanliness, simplicity and effectiveness it resembles the Sims vaginal speculum.

Negroes and Malaria.—It has been a tradition for centuries that the members of the black race were comparatively immune from malaria, but of late numerous practitioners in malarious regions within the tropics have adduced evidence against this theory. Dr. Jenkyns, of British Honduras, writes to the *British Medical Journal* of recent date that his experience of nine years in that colony has taught him that the negroes are very subject to intermittent fever, which is, however, very amenable to small doses of quinine, but that they also suffer occasionally from a bad type of remittent fever.

Compulsory Vaccination in Japan.—The local authorities in the prefecture of Tochiki-Ken have appropriated the sum of 4,996 yen to be used for prevention of small-pox, principally for public vaccination. The Governor has issued a proclamation ordering that all persons under forty years of age should be vaccinated, and that the vaccination should be repeated if it did not take the first time.

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Original Lectures.

PRESENT PROBLEMS IN EVOLUTION AND HEREDITY.

THE CARTWRIGHT LECTURES FOR 1892.

(Continued from page 456.)

BY HENRY FAIRFIELD OSBORN, Sc.D.,

DA COSTA PROFESSOR OF BIOLOGY IN COLUMBIA COLLEGE, NEW YORK.

LECTURE III.—CONTINUED.

HEREDITY AND THE GERM-CELLS.

Conclusions.—Perhaps the most impressive result of our review of recent researches in evolution and heredity is the uniformity of life-processes throughout the whole scale of life from the infusoria to man. The most striking analogy is that seen in the laws of fertilization and conjugation, which are shown by Maupas's researches to have been established substantially in their present form at a very early period in the evolution of living organisms. Such uniformity furnishes a powerful argument for the advocates of the study of biology as an introduction to the applied science of medicine. Much that is now entirely omitted from medical education, because it is considered too remote, is in reality at the very roots of the science. To understand the disorders of life we should first thoroughly understand the essential phenomena of normal life. Of course we shall never see life as it really is, because there is always something beyond our highest magnifying powers; but we come nearest to this invisible form of energy when, with such investigators as Hertwig and Maupas, we strip the life-processes of all their accessories and view them in their simplest external form.

The problems of evolution are found to be inseparably connected with those of heredity. No theory is at all adequate which does not explain both classes of facts, and we have seen that the explanations offered by the two opposed schools—those who believe in the transmission of acquired characters and those who do not—are directly exclusive of each other. We should suspend judgment entirely rather than cease to gather from every quarter facts which bear upon the most important and central problem of the transmission of acquired characters. I have endeavored to point out the opportunities which medical practitioners enjoy of contributing evidence upon this mooted question. It must not be forgotten that while the inheritance of individual adaptation to environment is the simplest method of explaining race adaptation such as we observe in the evolution of man, we know absolutely nothing of how such inheritance can be effected through the germ-cells. We cannot at present construct even any form of working hypothesis for such a process. On the other hand, we have found how untenable is the alternative theory offered to us by Weismann, that it is solely natural selection or the survival of the fittest which

> ". . . shapes our ends,
> Rough-hew them as we will."

At the same time Weismann's conception of a continuity of germinal protoplasm, which we have found to consist in chromatin plus archoplasm, helps us over many of the phenomena of heredity, especially on the retrogressive side, and if it were not that we must also account for progressive and definite transformation in heredity, we might credit the distinguished Freiburg naturalist with having loosened the Gordian knot.

In summing up, the order of treatment followed in the lectures may be reversed, and we can begin with the germ-cells, and condense the more or less ascertained facts.

The Germ-cells.—1. The material substance of hereditary transmission is the highly coloring protoplasm, or chromatin, in the nucleus of the germ-cells, probably connected with a certain form of archoplasm, or dynamic protoplasm, outside of the nucleus.

2. Before conjugation and fertilization the hereditary substance of both the male and female cells is reduced to one-half that found in a typical cell. The substance is, however, first doubled and then quartered, the meaning of which process is not understood.

3. There is a difference of opinion as to whether the paternal and maternal hereditary substances, during fertilization, are fused or lie side by side; also as to how the substance is distributed through the tissues, whether *en masse* or by qualitative distribution.

Heredity.—4. No connection between the germ cells and body-cells is known, but the facts of heredity seem to render such a connection theoretically necessary. Several classes of facts connected with reproduction seem to support this theory.

5. The facts of heredity support the theory of a continuous and specific form of protoplasm as the basis of repetition of type.

Evolution.—6. The facts of evolution, both in present and past time, point to transformism by definite progression toward new types of structure in succeeding generations, opposing the retrogressive forces of heredity.

7. The theory (Natural Selection) of definite progression by the accumulation of fortuitous favorable variations is found not only theoretically improbable, but not to correspond with the observed laws of variation.

8. The laws of variation (anomalies) lend support to the theory of hereditary transmission of individual variations, but even this (Lamarckian) theory encounters many difficulties.

I think this is as fair a statement as can be made at the present time, and it rests upon a general survey of the whole field.

NOTE.—Bearing upon the experimental evidence for the hereditary transmission of mutilations, I have recently received, through Dr. Charles E. Lockwood, of New York, a letter,[1] in regard to some experiments upon mice, which were continued over more generations than those of Weismann, and with affirmative results:

"I selected a pair of white mice on account of their rapid breeding. I bred them in and in for ninety-six generations, as they breed every thirty days, and when they are thirty days old they are able to reproduce themselves. I destroyed all sickly and defective ones by breeding only the fittest. I bred all disease out of them, and had a pure-blooded animal, larger and finer every way than the original pair. In breeding their tails off, I selected a pair and put them in a cage by themselves, and when they had young I took the young and clipped their tails off. When old enough to breed I selected a

[1] From A. J. S. Shiddell, Lexington, Ky.

pair from the young and bred them together, and when they had young I clipped their tails. I continued this breeding in and in, clipping each generation, and selecting a pair of the last young each time, in seven generations. Some of the young came without tails until I got a perfect breed of tailless mice. I then took one with a tail and one without a tail and bred them together, and by changing the sexes each time — a male without a tail, a female with a tail, and next a female without a tail, and a male with a tail—I was finally rewarded with all-tail mice."

There is such general scepticism now in regard to the inheritance of mutilations that it will be necessary to repeat these experiments in some well-known physiological laboratory. As told above, they seem to be perfectly trustworthy, but facts which go against a theory must be doubly attested.

Original Articles.

A SUCCESSFUL CASE OF CÆSAREAN SECTION.

By T. GAILLARD THOMAS, M.D.,

EMERITUS PROFESSOR OF GYNECOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK; CONSULTING SURGEON TO THE WOMAN'S HOSPITAL, NEW YORK.

ANTISEPTIC surgery in its long list of triumphs can point to none which is more illustrious than the "renaissance" of one of the oldest operations known to medicine, the Cæsarean section. Conceived and practised in the very earliest periods of the world's history, this procedure, eminently simple in all its details and offering itself as a precious resource where two lives are often at stake, has been, until very recently, deprived of most of its usefulness by the small percentage of success which has attended its performance. Thanks to the great discovery of the source of sepsis and of its preventive means, this "opprobrium chirurgiæ" has to-day assumed, and is destined forever to maintain, its place as one of the benign and most serviceable resources of our art. No physician who reads aright the signs of the times can for a moment doubt that the operation of the Cæsarean section will in the future yield almost as good results as those now yielded by laparotomy, performed for the removal of ovarian and uterine tumors; no progressive obstetrician will fail to recognize that it is about to relegate to the desuetude which it deserves that sad and disgusting procedure, craniotomy, with its revolting details, its terrible responsibilities, and its confession of the poverty of obstetric resource.

That the day will ever, or should ever, come when craniotomy will be eliminated from obstetric surgery I do not believe. It will always, and should always, have a place in the list of operations; but its place should be a small one; its claims as a resource should be to the last degree curtailed; its influence over the obstetric mind of the nineteenth century to the last degree minimized.

Resorted to, as it often is, as a screen for incompetency on the part of the obstetrician; practised, as it sometimes is, because its brutal simplicity puts it at the disposal of one unprepared to offer to his patient procedures requiring a higher order of education and skill, craniotomy is a crime, the commission of which will not be much longer condoned by the medical profession of our time. And yet, while expressing myself thus strongly on one side of the argument, I regard the man who declares that "under no circumstances would be perform the operation upon a living child" as one who acknowledges that he would culpably shrink from a duty which, in certain rare cases, is as plain as it is painful, and the neglect of which would, without doubt, place the responsibility of a woman's death at his door!

As I look back upon an experience of nearly forty years of obstetric practice, I recall none which has been so painful as that connected with decisions upon this point. Happy the man whose retrospect gives him no qualms of conscience, no painful memories in a field so pregnant with the possibilities of regret!

Certain it is that, with reference to this subject, the "old landmarks" have been materially altered. He who at the bedside to-day draws deductions from the old data; nay, even he whose practice is guided by the statistics of Cæsarean section accumulated just prior to the last decade, uninfluenced by the brilliant results obtained by Saenger and Fritsch, in Europe, and by Lusk, Kelly, and others in this country, is destined to a revelation, to an obstetrical awakening, which will make him aware of the fact that in this regard a new era has been established and placed upon a basis which promises to be an enduring one.

On January 24, 1892, Dr. J. J. Hull called upon me with the request that I would perform the operation of laparo-elytrotomy for him upon a patient of his then in the Nursery and Child's Hospital in this city. I replied that, in view of the excellent results obtained in late years from the Cæsarean section, I looked upon laparo-elytrotomy as being no longer a warrantable procedure; that when I had advocated and practised it the statistics of Cæsarean section were so very bad that I felt justified in my support of it; but that now, in face of the excellent results which had attended the older procedure, I should give the preference to that operation, which I was very willing to undertake in this case.

Upon visiting the patient with Dr. Hull, I found her to be an English dwarf, twenty years of age, 4 feet 5 inches in height, who had lived in London, England, until three years ago, when she immigrated to this city. During her stay here she had supported herself by acting as a servant in a private family, and had enjoyed excellent health. This was her first pregnancy, and was an illegitimate one. By careful calculation she felt sure that it would reach its full term of nine months in a week from that time. She is a woman of good intelligence and a fair order of education, and we had every reason, not only from her statements, but from the physical signs of her pregnancy, the period of menstrual cessation, and the period of quickening, to put confidence in her deductions.

Photograph of mother and child, taken on the twenty-first day after Cæsarean section.

The following results of investigations and measurements of the pelvis, carefully made by different members of the visiting staff, alone, and in consultation, were recorded: *a*, Distance between antero-superior spines of ilia, 8⅝ inches; *b*, greatest divergence of iliac crests, 10½ inches; *c*, internal conjugate diameter of superior strait, 2⅝ inches; *d*, spinal column straight; *e*, extremities of long bones large.

These considerations: 1st, The apparently large size and vigorous state of the child; 2d, the fact that the full term of utero-gestation seemed to have been reached; and 3d, the narrowness of the conjugate diameter of the pelvic brim, led Dr. Hull and myself to believe that Cæsarean section would be a more appropriate procedure, in our patient's management, than an effort to deliver by the natural passages, with the great probability of having to

resort to craniotomy, with its certainty of death to the child, and its great dangers to the mother.

A consultation of the visiting staff of the hospital was called, and, eight votes being cast, it resulted in favor of the Cæsarean section. For the purpose of availing ourselves of the normal contractions of the uterus at full term, everything was prepared for the operation, and the house surgeon was directed to summon me and my colleagues as soon as labor fully set in. To our surprise, we waited just five weeks, the patient stoutly and positively declaring during this time, as she does at the present moment, that she was going to the end of the tenth month of gestation. Everything connected with the case leads me to feel quite sure that in this belief she is perfectly correct.

On the night of Sunday, February 28th, at ten o'clock, we were called to the hospital, and found the patient advancing into the first stage of labor. The os uteri was as large as a silver dollar, the cervical mucous plug had passed away, and uterine efforts were occurring every eight or ten minutes, and were strong and decided in character.

Before describing the operation, I will say that every antiseptic precaution known to science was adopted; not even the most insignificant was neglected. This will save me the trouble of again alluding to this matter.

The patient having been placed in the ordinary dorsal decubitus and anæsthetized with chloroform, I proceeded to operate in the presence of Professor W. T. Lusk, and Drs. J. J. Hull, Lambert, and Brattenall, and assisted by Drs. H. D. Nicoll, A. J. McCosh, Hayt, the house surgeon of the hospital, and Stewart Paton. The operation consisted of the following steps:

1. A long incision was made, extending from about two inches above the umbilicus downward nearly to the symphysis pubis, and passing through the peritoneum.

2. Three sutures of silk, twelve inches long, were then passed at the upper extremity of this incision, and left untied.

3. The uterus was then lifted out of the abdominal cavity, and, being carefully enveloped in a moist antiseptic towel, was given into the hands of my first assistant.

4. A large, flat sponge was then placed over the intestines at the upper extremity of the incision, and the abdominal walls were closed over it by tying the three silk sutures already mentioned as being left loose at this point.

5. A bit of elastic tubing was then passed around the cervix uteri, and a single knot made in it, but no constriction was practised.

6. A small sponge was then put in the lower angle of the wound, and the point of exit of the uterus from the abdomen was carefully and thoroughly protected against possible entrance of fluids by moist antiseptic towels and gauze.

7. The uterus was then opened, first by bistoury, and then the opening was enlarged by scissors.

8. The child's feet being then seized, it was removed; the cord was secured by clamps and severed, and the child, a large and vigorous boy, was given into the hands of Dr. Hayt.

9. The placenta, which was unusually large, was detached without effort, falling away like ripe fruit from a tree, and leaving less of a sign of its place of attachment to the uterus than any placenta that I have ever seen.

10. Slight hemorrhage occurring, Dr. McCosh tightened the cervical ligature and stopped it.

11. The uterus was cleansed with a sponge, and the cavity was dusted lightly with iodoform.

12. The uterine incision was then closed with deep sutures of silk, three to an inch, involving the uterine muscular tissue down to the mucosa, and with interven ing superficial sutures of the same material, one to every interspace.

13. The uterus was then returned to the abdomen; the sponges, already mentioned as left at the extremities of the wound, were removed; the peritoneal cavity sponged out; the omentum drawn down over the uterus; and fluid extract of ergot injected into the patient's thigh hypodermatically.

14. The abdominal wound was then closed exactly as after an ovariotomy operation, with silk-worm gut suture; the ordinary antiseptic dressing applied, and the patient put to bed, with directions that no food or drink be given, and that in case of severe pain the house surgeon should give morphia hypodermatically in moderate doses.

During the night Dr. Hayt found it necessary to use morphia three times on account of pain, but no other indication developed itself.

The after-history of the case was so uneventful that there is no reason for exhibiting a chart of it. Upon Dr. Hayt's examination of the child the following measurements were obtained:

SKULL.

Diameters.

	Inches.
Occipito-mental	5⅛
Occipito-frontal	5
Sub-occipito-bregmatic	3½
Bi-parietal	4
Bi-temporal	3⅜
Fronto-mental	3½

Circumferences.

Occipito-frontal	14½
Sub-occipito-bregmatic	13
Length of child	23
Across shoulders	5⅜
Across hips	6
Weight	10 pounds, 15 oz.

The operation of the Cæsarean section is one of signal simplicity and ease of performance. Were I asked upon what the future grand and glorious results of this operation are chiefly to depend, I should, with abiding confidence and implicit faith, reply, "Upon care;" *i.e.*, upon a conscientious and minute attention to details, more especially to those relating to antisepsis.

The operation which I here put on record prompts the following suggestions as to details:

1. I regard the lifting of the uterus out of the abdomen, and the partial closure of the abdominal walls before cutting into it, as a very important step, and one which conduces greatly to the prevention of the entrance of septic fluids into the peritoneal cavity. In no future case would I neglect it.

2. While undue haste should be avoided, rapidity of operation should be striven after. The demands even of a rapid operation upon the nervous system of the woman are necessarily great, and the tardy manipulations of an operator who wastes precious time in discussions, in asking opinions, and in illustrating views are greatly to be deprecated. The time is not propitious for a clinical lecture!

3. In lengthy operations I much prefer ether to chloroform; in this one, I prefer chloroform to ether, from the fact that vomiting subsequent to operation is a source of danger to the uterine sutures, and may force out fluids from the uterine cavity into the peritoneum, even if it do not disturb the sutures.

4. It is a matter of the first importance that the operation should be performed, not before nor after, but during the first stage of labor. Before full establishment of this, and after escape of the liquor amnii, the chances of success are greatly diminished.

Before closing this paper I venture upon a digression, which I feel sure that my readers will pardon. The woman who was the subject of this operation lay in the same room which was occupied by a patient of similar physical conformation, whom I delivered of a fine boy, fifteen years ago, by the operation of laparo-elytrotomy, and who left the hospital three weeks after the operation, carrying her lusty infant in her arms.

"The statistical results of laparo-elytrotomy," says Lusk, in his masterly work upon obstetrics, "are the saving of seven mothers in thirteen operations. But in no

one of the fatal cases were the conditions such as to render success a possibility." The operation failed to become a recognized and well-established surgical procedure, not on account of its own shortcomings, but because the modern improvements in the Cæsarean section have put that operation far above laparo-elytrotomy in ease, precision, and certainty of result.

In the name of simple justice it must be remembered that the recent grand results of the Cæsarean section have been obtained under the magical influence of "antisepsis;" while those of laparo-elytrotomy were obtained not only without that adjuvant circumstance, but at a time when the statistics of Cæsarean section were so very bad as to render it a rare procedure, and one limited in its scope to very desperate cases and the most forlorn circumstances.

Nevertheless, all things being considered, I close this article as I commenced it, with the frank admission that in view of the recent results obtained from the operation of the Cæsarean section, I should not feel warranted in performing laparo-elytrotomy; which is tantamount to the confession that "it has been weighed in the balance, and (by comparison) found wanting."

A NEW ELECTRO-THERAPEUTIC ELECTRODE, WITH EXPERIMENTAL OBSERVATIONS.

By A. D. ROCKWELL, M.D.,

NEW YORK.

Sometime ago my attention was called to a new form of electrode, with a request that I test its action and give an opinion as to its value.

I have used it in perhaps a score of different cases in which pain, hyperæsthesia, and insomnia have been prom-

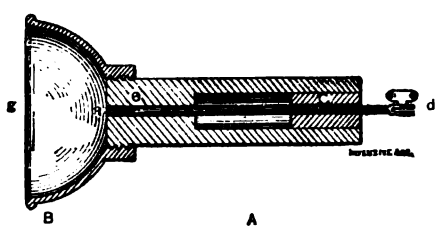


Fig. 1.

inent features; and, while I am not ready to pass final judgment upon it, yet the device seems to me to be meritorious, and to deserve a full description and further trial. That others, therefore, may be put in the way of testing this interesting contrivance, I ask place for it in the columns of the Record.

The object of this electrode is to combine special electro-therapeutic properties with an adjustable artificial resistance, the idea being to bring that portion of the body between the two electrodes under the influence exclusively of either the positive or negative pole of a voltaic battery. When two ordinary electrodes are applied to the surface of the body and a current of voltaic electricity made to pass from the positive to the negative pole through the intervening parts, the tissues immediately under and adjacent to the positive electrode are said to be under the polar influence of the positive pole, while those under and adjacent to the negative pole are said to be under the polar influence of the negative pole.

A point in the body approximately midway between the positive and negative poles is called the "neutral point," that is, a point where there is no change either in the acidity or in the alkalinity of the part, and where there is neither increased nor diminished irritability, neither catelectrotonos nor anelectrotonos.

In the drawings Fig. 1 is the electrode. while Fig. 2 represents the ordinary electrodes, and Fig. 3 this new electrode in use. Fig. 1 is a longitudinal section of this new electrode. It is a hollow handle composed of hard rubber. *B* is the body of the electrode (cup or funnel-shaped), also made of hard rubber; *g* is a porous cap, diaphragm, or partition for closing the larger opening of the funnel shaped electrode. *C* is a cylinder fitting the larger calibre *b* of the handle *A*; *d* is the conductor for connecting the electrode with the battery; *e* is the inner termination of this conductor, the end of which enters the small calibre *a* of the handle *A*. This conductor is preferably insulated except at the point, which is composed

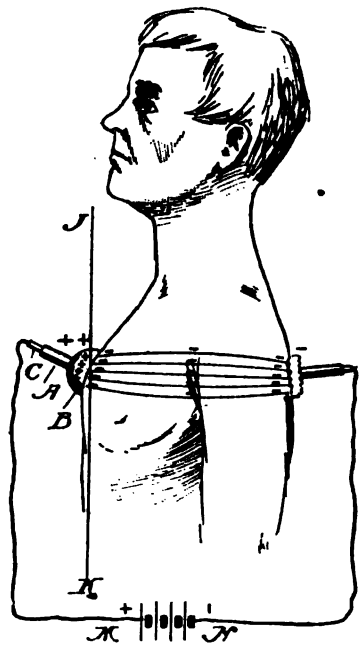


Fig. 2.

of some non-oxidizable material such as platinum or carbon. The conductor *d* is made to fit snugly the tube in the cylinder *C*, and, being adjustable, the point *e* can be adjusted to any position in the small tube *a*. By means of

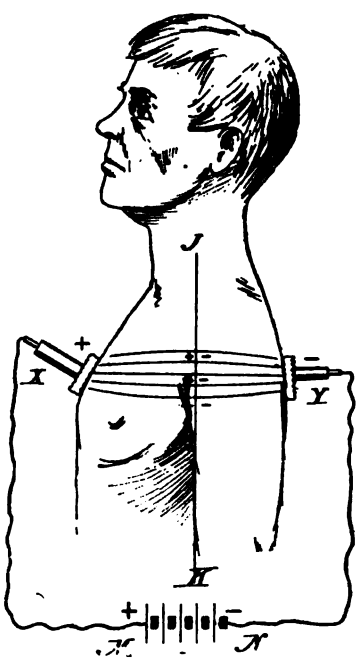


Fig. 3.

this facility of adjustment any desired resistance can be interposed in the circuit at pleasure. The funnel-shaped electrode is filled with some electrolytic fluid, as a very weak solution of bicarbonate of soda or potash or common salt. The conductor *d* may be secured in any desired position by means of the clamping screw.

Fig. 2 represents a portion of the body traversed by a voltaic current when the ordinary electrodes are used

X is the positive, *Y* the negative electrode. The vertical line *J K*, midway between these electrodes, indicates the neutral point. That part of the body between the positive pole and the neutral point is represented as being under the influence of the positive pole. This portion is said to be in a state of anelectrotonos or diminished irritability, and here are collected the electro-negative or acid-forming elements produced by the electrolytic action of the current. The part between the negative electrode and the neutral point is under the influence of the negative pole, and is said to be in a state of catelectrotonos or condition of increased irritability.

Fig. 3 illustrates what is supposed to occur when this new electrode is used in the application of electricity to the human body. The new electrode is represented as being connected with the positive pole of the battery, while an ordinary electrode is connected with the negative pole. The electrode may be filled with a weak solution of bicarbonate of soda, and the resistance is supposed to be equal to, or greater than, that of the body.

The neutral point *J K* is represented as having shifted from a central point in the body to the porous diaphragm of the electrode, and the whole of the body intervening is represented as being under the influence of the negative pole. In the use of this electrode it will be observed that the point of electrolytic action is supposed to be displaced outward from the part of the body immediately underneath the electrode, to the metal conductor in the electrode. The explanation of this is, that by using an electrolytic fluid not altogether dissimilar to that of the fluids of the body, and introducing into the circuit by means of said electrode an artificial resistance equal to, or greater than, that of the body, the polar influence of the voltaic current on the portion of the body adjacent is wholly eliminated, the neutral point is displaced outward, and the body may be said to be under the influence of the opposite pole of the battery.

As the depolarizing action of the liquid in this electrode is somewhat similar to that of the depolarizing liquid in certain fluid batteries, such as the Daniell, we might expect that the same laws would hold good in regard to the nature of the fluid used for obtaining the depolarizing effect in the two cases.

In the Daniell cell we have the diluted sulphuric acid in one compartment, separated from the copper sulphate solution in the other by the partition of porous earthenware. And as this arrangement is found practically to give the best results in preventing the accumulation of hydrogen gas, either at the surface of the copper plate, or at the porous partition (where bubbles of this gas may be observed to collect if a solution of another salt, such as the acetate of copper, be substituted for the sulphate), we may reasonably conclude that the electrolytic action within the cell is assisted by a certain similarity in chemical composition in the two liquids. In using this new electrode, the skin, and the porous diaphragm of this electrode represent the porous earthenware partition in the cell, while the fluids of the body and that within the electrode represent the two fluids used in the battery cell.

Reasoning from analogy, then, we might expect better results from the use in the electrode of a fluid similar in composition to the fluids of the body.

Now, it is probable, from the results of experiments in this direction, that the salts of the blood play the main part in the conduction of the current, the mineral acids, viz., sulphuric, hydrochloric, and phosphoric, being found underneath the skin at the positive pole, while alkaline compounds of sodium, potassium, etc., are found at the negative pole. Although the electrolytic action within the electrode can be obtained by the use of a simple solution of salt and water, as shown by testing the fluid within the electrode with litmus paper, it is possible that better results might be obtained by the use of a solution approaching more nearly the blood in chemical composition; and I am now using the following solution for charging the electrode:

℞. Sodium chloride ..... gr. xxx.
Sodium bicarb ..... gr. xx.
Sodium phosph ..... gr. xv.
Sodium sulph ..... gr. x.

To be dissolved in one pint of warm water.

Observation I.—Two ordinary sponge electrodes were applied to the body, with an electro-motive force sufficient to yield ten milliampères of current. In a few moments sharp, burning sensations were felt under both electrodes, but somewhat more severe at the negative than at the positive point of contact, while the redness excited was about the same under both electrodes. For the ordinary electrode connected with the negative pole I now substituted this new electrode, adjusted to a measure of resistance equal to, or a little greater than, that portion of the body to be traversed by the current, so that the neutral point might be supposed to be thrown outward into the electrode itself.

An increased electro-motive force sufficient still to yield a current of ten milliampères was now employed, with the result of exciting under the ordinary positive electrode a sensation of burning about equal in degree to that previously observed. Under the new electrode, however, connected with the negative pole the burning sensation excited, instead of being greater, was less than at the positive pole, as was also the redness occasioned.

Observation II.—A platinum needle connected with the positive pole was thrust into a piece of raw beef, and a small ordinary electrode connected with the negative pole was held in close proximity, and a current of 150 milliampères allowed to pass for five minutes. As is always the case, litmus paper showed an acid reaction at the positive pole and an alkaline reaction at the negative pole.

For the ordinary electrode at the negative pole the new electrode, charged with a weak solution of salt and water, was now substituted, and properly adjusted as to its resistance. An increased electro-motive force sufficient to produce the same amount of current strength as before was again allowed to operate for five minutes. The products of decomposition at the positive pole, when tested, revealed the same strong acid reaction as in the previous experiment, but at the negative pole, under the new electrode, the alkaline reaction was exceedingly faint. On the contrary, when we came to test the fluid inside of the electrode, where the neutral point was supposed to have been thrown, the alkaline reaction was distinct and positive.

Observation III.—It is well known that if a frog be decapitated the hind-legs will still retain their irritability to stimuli, and may be made to contract by an interrupted current from three or four cells. The hind-legs of a frog thus prepared were subjected to the influence of a weak galvanic current passed from the toes to the lumbar region of the spine. With the new electrode in use, connected with the negative pole, the muscles of the thigh exhibited diminished irritability and failed to respond to any ordinary strength of current. On the contrary, when the connection was made with the positive pole, the leg exhibited the phenomenon of catelectrotonos, and readily responded to a comparatively weak current.

It is a well-established fact that in a circuit where metallic electrodes are used, electrolysis takes place exactly in the same way, as regards quality and quantity of the anions and cations, in whatever part of the circuit the electrolyte is introduced, and as the phenomena of anelectrotonos and catelectrotonos are usually described as resulting from the effects of the acids and alkalies, respectively, formed by the passage of the current, we naturally infer that the prepared electrode and the muscles of the frog's leg combine to form one homogeneous electrolyte in which the acids are deposited in the electrode and the alkalies in the muscles of the leg when the pre-

pared electrode is connected with the positive pole, as in the second experiment, or *vice versa*, as in the first experiment, when the electrode was connected with the negative pole.[1]

CÆSAREAN SECTION, REPEATED ON SAME WOMAN AFTER SIX YEARS, FOLLOWED BY RECOVERY, WITH A LIVING CHILD.

By A. H. F. BIGGAR, M.D.,

CLEVELAND, O.

(Reported by G. B. HAGGART, M.D.)

MRS. A. S——, a German, living at Salineville, O., aged thirty four; height, four feet, and weighing sixty-five pounds, had five impregnations; the three previous to the first Cæsarean section were terminated by craniotomy on account of the brimmed pelvis of the mother. The first section occurred December 16, 1886, resulting in

the delivery of a female child, by Sangers's method, the child weighing eight pounds.

In the present instance, at her home, seventy-five miles from Cleveland, labor pains began on Tuesday, February 16, 1892, at 3 P.M., and on the same night the waters came away. On Wednesday, at 3 A.M., she was put on a train for Cleveland—making the journey in a day car—the pains lasting until her arrival at 7 A.M. By mistake Dr. Biggar did not learn of her arrival on the morning train, and the consultation preceding operative measures occurred at 4.30 P M. The medical class of the college were present, and the method was the same as the first, following the old line of incision.

The old operation had resulted in the adhesion of the entire uterine length to the abdominal wall. The length of time occupied was twenty-five minutes. The birth was "dry" in this case, on account of the early rupture of the waters, and the child weighed eight and one quarter pounds. In the first birth the fœtal heart-beat was 135, and the birth was wet, the position of the child in the uterine cavity, and the transparent waters surrounding making a most beautiful effect to the operator. When first operated upon, the father, who, like the mother, was of small stature, yet perfectly formed physically, objected to the removal of the ovaries. In the last one it was impossible to do so, on account of the most intimate adhesions of abdominal parietes to entire length of uterus.

Professor J. C. Sanders determined the fœtal heart-beat as 128—prognosing a boy. The case made a good recovery despite some bronchitic and erysipelatous symptoms, and returned home in the usual state of bodily vigor. The boy was christened—as a point of remembrance of the method by which rescued—Cæsar, and was a thrifty, well-nourished child.

The doctors present were: Drs. J. C. Sanders, H. Pomeroy, J. K. Sanders, Martha A. Canfield, G. W. Meredith, H. D. Bishop, G. B. Haggart, and Emily Barnes.

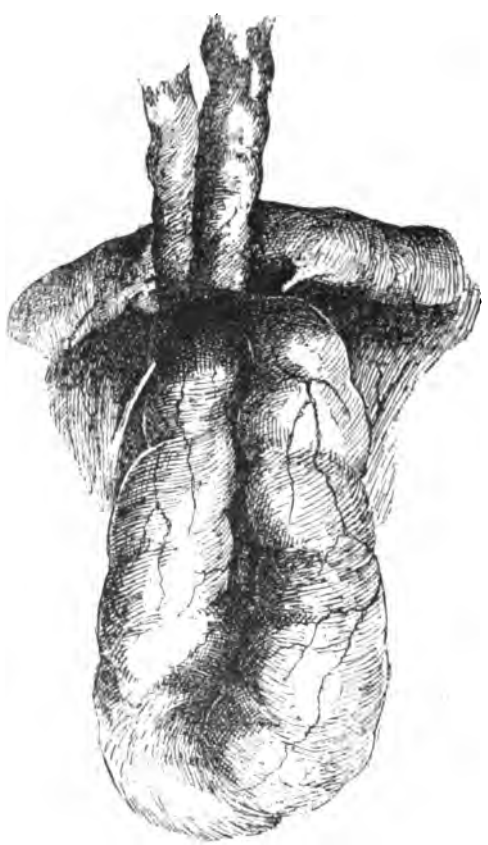
[1] This electrode was devised and is made by H. Bonis, 31 Stuyvesant Street, New York.

INTESTINAL OBSTRUCTION.[1]

By RICHARD DOUGLAS, M.D.,

PROFESSOR OF GYNECOLOGY MEDICAL DEPARTMENT VANDERBILT UNIVERSITY, NASHVILLE, TENN.

MISS SALLIE W——, of Gallatin, Tenn., is a frail, delicate blonde, about twenty-two years of age. I submit the following brief history of her case for your consideration. Convalescent from an attack of influenza, on Wednesday, December 23d last, she was seized with severe pain in her abdomen, not localized at first, and relieved for the time being by the usual remedies; bowels responded



copiously to laxative. The following day, in the absence of her physician, Dr. Swaney, Dr. Woodson was called, who found her with intense abdominal pain, nausea and vomiting. The pain was most acute in right inguinal region, and seemed to radiate from that point over the entire ab-

[1] Read before the Tennessee State Medical Society, April 13, 1892.

domen. Pulse, 80; temperature, normal. Morphia was given freely. Symptoms unabated on Friday, when her physicians, Drs. Swaney and Woodson, in consultation, discovered a well defined swelling in the right inguinal region. McBurney's point of greatest tenderness was accurately located. There was some general tympany; persistent vomiting; pulse, 100; bowels had not moved since Wednesday, the first day of the attack. No effort, however, was made to move them, as the free response to the first purgation was deemed sufficient.

From the above rather familiar and other more minute facts, the diagnosis of appendicitis was made by the physicians in attendance. There being no improvement in her condition I was called, and reached her Sunday night at nine o'clock. Found her pulse 140, temperature, 99° F. Constant retching and vomiting. These were the symptoms indicating the extreme condition of the patient.

Examination showed the abdomen as symmetrically distended, the enlargement most prominent upon the right side; there was constant pain and extreme tenderness all over the abdomen.

Percussion outlined dulness over lower half of right lumbar, right inguinal, hypogastric, and into the inguinal region of left side. Remaining abdominal area highly resonant. These physical signs I could not quite reconcile with the diagnosis of appendicitis. I raised the question of intestinal obstruction, which it seems the free fecal evacuation after the onset of the symptoms eliminated. It also occurred to me the symptoms might be due to some acute complication in a hitherto undiscovered tumor. The evidence in this case did not sustain this view. Therefore, with no very definite opinion other than that there was some very active intra-abdominal trouble, which if not relieved would in a few hours terminate in the young woman's death, I determined in the face of her extreme condition to open the abdomen, search for, and if possible remove the cause.

Drs. Swaney and Woodson were positive that in the very early stage of the attack there was characteristic response to McBurney's sign. The tumor was most prominent and dulness most absolute in this locality, yet there were certain features in the case which did not accord with the diagnosis of appendicitis.

Owing to my inability to arrive at a more satisfactory conclusion, the operation was essentially exploratory in character.

Believing a lateral incision would lead more directly to the seat of trouble, I made a somewhat oblique incision in the right linea semilunaris. A pint or more of bloody serum escaped from the cavity, and a large coil of enormously distended intestine presented at the wound, greatly interfering with the intra-abdominal examination. On investigating the right inguinal region, and finding a free and floating appendix and flaccid, collapsed cæcum, the diagnosis was no longer doubtful. It was clear we had to deal with an obstruction in some portion of the small intestine. The field of operation was entirely occluded by enormous coils of intestines distended with fluid, rendering further manual examination practically impossible. Indeed this was not attempted, for it was observed that, owing to the extreme distension of the presenting coils, the serous coat had given away and there were two slight ruptures, about one-half inch in length and three inches apart, at right angles to the axis of the gut, involving only the peritoneal layer.

Determining at once to relieve the intestines of their contents, I drew the coil out of the wound as well as I could, packed about flat sponges for protection, and with scalpel I punctured the gut at the site of the partial rupture. At least two quarts of pea-soup-like fluid were ejected three feet or more from the patient—by the force of intra-abdominal pressure, of course, for all muscular power of the bowels was destroyed by the paralysis of over-distension. The intestines were now empty and flaccid. After closing the puncture and rupture with Lembert suture, further investigation was conducted without difficulty.

To facilitate examination and to protect from further injury by manipulation, the sutured coil of intestines was exventrated and enveloped in a warm napkin. Following by inspection the most congested coils of bowels, we soon came to the seat of obstruction, located high in the mesenteric attachment. The intestines were entwined and tangled in a most puzzling manner, forcibly reminding me of the knot in the fishing-line of my boyhood days. On careful scrutiny I discovered a round cord, about the size of a No. 6 catheter, attached to the mesentery, encircling and constricting the intestines, which were so matted by torsion and adhesive inflammation that it was impossible for me to trace the cord more than half an inch from the mesenteric origin. Satisfying myself it was a false ligament, I ligated close to the mesentery and divided. This, in a great measure, relieved the strangulation, enabling me to partially disengage the tangle. In doing so I discovered the distal end of the cord attached to the lateral aspect of the intestine. Ligating and severing this, I liberated the captured bowel, in all a loop of about three feet, deeply congested, with here and there deposits of plastic lymph, looking not unlike the membrane of diphtheria. At one spot on the line of constriction by the band, the wall of the intestine appeared almost gangrenous; so for safety it was folded in and the adjacent sound area stitched over it.

The cavity was now flooded with hot water, soft rubber drain introduced, and abdominal wound closed and dressed in the usual way. Almost immediately after putting the patient to bed she vomited quite a quantity of dark greenish fluid of distinct fecal odor. After this she appeared quite comfortable. Reaction was slow, yet the patient did moderately well until the fourth day; the wound was then examined, and found behaving badly, the edges were red and pouting, several stitches were removed, permitting a free discharge of sero-purulent matter; no doubt the abdominal wound was contaminated by intestinal contents at the time of operation. A mural abscess with some sloughing followed, protracting the recovery until the wound healed by granulation. The after-treatment was conducted entirely by Drs. Swaney and Woodson, to whose judicious care her ultimate satisfactory recovery was due.

It was with some pleasure and no little pride that I read the concluding lines of a letter in which one of those gentlemen, in speaking of the case, says, "In forty years I cannot recall a case which owes more to surgery."

An analytical study of the above recorded case will impress some important surgical facts upon the observer. The diagnosis, the pathology, and technique of operation may be reviewed.

Diagnosis.—The clinical history and early physical signs were pardonably misleading. The sudden onset, sharp abdominal pains localized in right inguinal region, free fecal evacuation after the advent of symptoms, quick pulse, and slight temperature; McBurney's point of extreme tenderness pronounced, and, finally, in confirmation of all, the development of a tumor in the cæcal region. The evidence thus presented would certainly warrant a verdict of appendicitis, yet in them we may see positive indications of intestinal obstruction.

Since pain was the most conspicuous symptom in the case, let us see if there is any positive diagnostic difference between the pain of appendicitis and of intestinal obstruction.

A sudden violent pain in the abdomen, most commonly in the right iliac fossa, is the "most constant first decided symptom of perforative inflammation of the appendix."—Osler.

Yet this positive symptom is generally preceded for hours, days, perhaps a week, by vague obscure pains—a sense of uneasiness. In other very occasional cases the patient is suddenly seized with severe pain in iliac region, with symptoms of collapse. The griping, colicky pains of

acute intestinal strangulation are always sudden in onset, never trivial, and are not heralded by prodrome. Patients may be "bent double with pain, and roll upon the floor," yet with all their agony, in which their constitution is profoundly impressed, they never pass *immediately* into that sudden and profound collapse which follows the violent pain of perforative appendicitis.

In acute intestinal obstruction the pain is referred to the "immediate vicinity of the umbilicus." In the majority of cases of appendicitis the pain is in the inguinal region, quite the exception for it to be referred to some remote part.

Tenderness.—This is an early, constant symptom of appendicitis in all stages or forms. It may be merely the local increased sensitiveness of the mild catarrhal form, or it may have the general tenderness of peritonitis consequent upon perforation. In acute intestinal obstruction tenderness is not an early symptom. Treves says it may never appear; usually, however, it develops with onset of local or general peritonitis. When limited it is usually over the seat of obstruction. McBurney's point of localized tenderness on deep pressure is held to be almost pathognomonic of appendicitis.

Upon the authority of Drs. Woodson and Swaney, the above detailed case in intestinal obstruction responded most beautifully to the McBurney test. We cannot expect to find the appendix in the same position; this fact, says Hoffman, "forever blots out McBurney's point." "It is wholly ununiform and useless," says Price.

If we are to receive an affirmative response to the test in obstruction, I fear the point is getting rather dull, yet it was upon this sign more than any other the erroneous diagnosis of appendicitis was made. Passing over the more common symptoms of constipation and vomiting, which were absolute and persistent in this case, the physical examination of the abdomen revealed an interesting, though not unique, condition. About the third day of the attack the attending physicians discovered a swelling in the right inguinal region, tender upon pressure and dull upon percussion. It was observed that the area of percussion dulness had increased somewhat on Saturday, the fourth day.

When I reached the patient, Sunday night, you will remember I found the entire abdomen distended. I could easily outline by percussion absolute flatness from the left inguinal region, across the lower zone of the abdomen, into the right lumbar. This swelling was tender, elastic, and fluctuant. A circumscribed enlargement in the right inguinal, developing in the wake of such symptoms as above recorded, was certainly, in itself, evidence strongly presumptive of appendicitis. The rapid increase in the size of the swelling, and the extensive area of percussion dulness, however, almost precluded that diagnosis. What, then, might it have been?

All who are familiar with abdominal tumors know that not unfrequently in their natural history they are affected by some active complication, such as torsion of the pedicle, inflammation, hemorrhage into a cyst, etc., either one of which might be attended by a rapid increase in the size of growth, and thus lead to the recognition of a tumor hitherto undiscovered.

Treves tells us that in a few exceptional cases of intestinal obstruction we may meet with a localized area of percussion dulness due to the accumulation in the captured coils of intestine.

In acute strangulation the violent peristalsis, venous engorgement, and subsequent dilatation and paralysis of the bowels above the obstruction (Senn) are all conditions highly favorable for the transudation and accumulation of fluid in the intestinal tube. It is true in a large percentage of cases of intestinal obstruction only a small knuckle or coil of bowels is imprisoned, yet for diagnostic application we should not forget in a few exceptional cases, the one here reported being a typical illustration, a loop of several feet may be incarcerated, yielding confusing physical signs.

There are two points in the pathology of this case I shall briefly allude to, viz., 1, the peritoneal false ligament or solitary band causing the strangulation; 2, the extreme distension of the strangulated loop

Upon careful investigation into Miss Sallie's previous history I am unable to learn of any disease or injury that might have given rise to a local peritonitis, yet upon the highest authority we know that this solitary band is an unmistakable evidence of previous localized peritoneal inflammation.

In the life of an individual we can easily comprehend how some slight injury or blow, some enteritis with intestinal ulceration, may have escaped the notice or memory of the family. It must also be remembered that "peritonitis may occur during intra-uterine life" (Treves). In localized peritonitis plastic effusion results in the adhesion of two opposed peritoneal surfaces.

In consequence of the ever-changing relation of the viscera, especially the rolling movements of the intestines, the band of adhesion, which at first may have been a broad attachment, is soon transformed into a cord of greater or less length. In this particular case one attachment was to the mesentery; the other to a coil of jejunum. In the arcade formed by the expanse of mesentery below, and the two-inch band above, a loop of intestine slipped. No doubt at first there was quite a small coil, the accumulation and active peristalsis served to draw more through, until finally the twisting and the distension effected complete strangulation.

Reviewing the technique of the operation as performed, there are several avenues for adverse criticism. The patient, it is true, was in an extreme condition, the state of circulation and the ceaseless vomiting rendering any operative procedure hazardous. Having determined upon operation, the first step should have been copious irrigation of the stomach. The symptoms demanded this, regardless of the diagnosis. Under the influence of hot water in the stomach the pulse would have improved, the vomiting temporarily allayed, and the patient placed in altogether better condition for operation. It is with regret that I record this sin of omission; it was merely chance that it did not prove disastrous to the patient.

Incision.—Every physical sign located the trouble on the right side, hence I chose the lateral incision.

Examination.—Having determined by the condition of the cæcum that I had to deal with an obstruction in the small intestine, further intra-abdominal examination was precluded until the distended coils of intestine could be disposed of in some way.

I was given but little choice of methods. Exventration could not have been accomplished without the greatest possible risk of injury to the integrity of the bowel; therefore when I discovered a small rupture in the peritoneal coat of the most distended and presenting coil, I at once determined to evacuate by Madelung's method. The opening of the intestine was followed by such a copious and forcible evacuation of its contents, that it was not necessary to consume valuable time by the introduction of a catheter for further intestinal drainage as that surgeon recommends (Senn). I was enabled to immediately cleanse and close the intestinal wound, and, now with flaccid bowels, proceed in my search for the seat of obstruction. In this I was guided entirely by visual examination. Following up the congested coils, I soon discovered the seat of constriction. Liberating this in the manner previously described, the operation was practically complete, having disposed of the two essential indications for the relief of the intestinal obstruction, first, removal of the cause of obstruction; second, the relief of the engorged and distended bowel.

A Chicago Physician was arrested a while ago by a thick-witted policeman, who saw the doctor enter a house with his satchel, and concluded he was peddling or canvassing without license.

AN INTERESTING CASE OF SUBDURAL INTRA-CRANIAL HEMORRHAGE (WITHOUT FRACTURE) — LEPTOMENINGITIS — TREPHINING—RECOVERY.[1]

By FRED. LLOYD WELLS, M.D.,

EX-HOUSE SURGEON CHAMBERS STREET HOSPITAL, NEW YORK.

Mr. President and Gentlemen: The following is the simple history of a case brought into the Chambers Street Hospital of this city while I was acting in the capacity of house surgeon.

A good number of the cases treated in that institution present great difficulties in the way of diagnosis. They are found unconscious on the street and no clue to their identity can be obtained. Consequently the history cannot be learned, and any diagnosis made must be based entirely upon the signs present.

This patient, a German, aged about twenty-three, was suddenly seen to fall in the street. An ambulance was summoned from Chambers Street Hospital, but the surgeon upon his arrival could obtain nothing but these few facts as to the history. No one knew him. He was walking along the street, was suddenly seen to fall, and to go immediately into convulsions. These had stopped before the arrival of the ambulance, but were described as being "of his face and all his limbs." "He frothed at the mouth," "turned black in the face," and, in fact, was said to have had all the signs of a typical epileptic seizure. The contents of his pockets gave no clue as to his friends, so he was taken to hospital and immediately put to bed. An examination then made showed him to be a man of good physique, well nourished, and entirely unconscious.

He had no deformities. Tongue was bitten. We could find no evidences of any injury except a small scar on the left side of the head, anterior to and a little above the ear. This, however, was judged to be from three to six weeks old. The pupils were dilated, but equally so, and possessed reflexes. Heart and lungs were normal. Temperature, 102° F.; respiration, 30; pulse, 120. No loss of motion, and apparently none of sensation—in fact, hyperæsthesia was thought to be present. The urine was fair in quantity, and pale yellow in color; specific gravity, 1.020, and contained a slight amount of albumin, but no casts nor sugar. The bowels moved and urine was passed involuntarily. The convulsions came at intervals of one-half hour to three hours, they were clonic and general, and would last from one to two minutes. During the intervals the patient was completely unconscious and delirious, and was with difficulty kept in bed. He was given morphine sulphate, by hypodermic injection, quite frequently. Toward evening the temperature rose to 104° F. This temperature was followed by a sweat, and he became even more delirious.

The case was then seen by the acting visiting-surgeon, who advised symptomatic treatment, and careful watching in order to discover any signs which might lead to a positive diagnosis. Ice-bags were then applied to head and kept on constantly.

August 21st.—Condition remains about the same. Temperature has fallen to 103° F.; respiration, 26, and pulse, 110. The convulsions during the night were thought to be a little more frequent than during the day, but general. During the day, however, they could be more carefully watched, and were then found to begin in either the right eye, or the right corner of the mouth, to advance to the right arm and leg, and finally become general. The advance, however, was so rapid that to all ordinary observation they were general from the start. The treatment of the day before was continued. The temperature in the evening rose to 105° F., and was again followed by a sweat; the convulsions became more frequent, more severe, and even more nearly general, from the start.

[1] Read before Society of Alumni of Charity Hospital, January 6, 1892.

August 22d.—During the night the convulsions were nearly constant. The temperature in the morning was found to have become lowered to 104° F., but the patient was wasting very rapidly. He was again seen by the acting visiting-surgeon, who was unable to decide positively as to a diagnosis, but being obliged to leave town gave permission to do anything considered necessary. The patient gradually became worse, and operation was decided upon, with the idea that his trouble was due to a cerebral abscess following the old injury, the scar of which was found, and which scar was about in the location of the motor area for the face, arm, and leg of the right side. Dr. Cole, who had previously unofficially seen the case and advised operation, was then acting as visiting-surgeon, and was called, and with his assistance operation was begun. Temperature at time of operation, 105° F.; pulse, 123; respiration, 22.

Operation.—All antiseptic details were carried out, the head being shaved, scrubbed, and made surgically clean. A semilunar incision, with its convexity downward, was made in such a position as to include the point of suspected compression in the concavity, and the scalp and muscles were turned up. The periosteum was found more than usually adherent beneath the scar, but was finally turned up and the bone exposed. Not the slightest evidences of fracture could be found, no elevations or depressions existed.

The trephine was applied a little above and anterior to the scar, in order to correspond more nearly with the centre of the motor area.

The disk of bone was removed with great difficulty, the dura being so adherent as to tear away pieces of the bone. The bone itself was three-sixteenths of an inch in thickness, and perhaps a little more vascular than usual, but otherwise normal. No depression of the inner table was found. The dura was dark in color and presented no pulsations.

A crucial incision was made in the membrane, and a blood-clot immediately protruded. The incision was then enlarged, and a handful of clotted blood removed.

This blood-clot occupied a position immediately beneath the trephine opening, extending up along the tissue of Rolando, and covering the motor areas of face, arm, and leg of the opposite side of the body, the largest part being over the centre of the face.

Microscopical examination showed the clot to be undergoing softening and a transformation into pus. The pia was seen to be very much reddened and inflamed, the brain itself greatly compressed, but not softened.

The cavity was then cleansed with solution of bichloride, 1 to 20,000. After satisfying ourselves that no fresh bleeding was taking place the dressing was begun. A strip of iodoform gauze was introduced to the bottom of the cavity which was left by the removal of the blood-clots. A tube was introduced into the dura—but not through it. The disk of bone was not replaced. A large antiseptic dressing was applied.

The patient came from ether nicely, and during the recovery uttered the first rational words since admission by asking for a drink of water. Temperature at night (four hours after the operation) was 103° F.

August 23d.—During the night he had several convulsions general in character. The morning temperature was still 103° F. The wound was redressed, drainage being kept up by the same method.

August 24th.—No convulsions during the day, but he complained of great pain in the head. Temperature, 104° F. No convulsions during night; the patient took brandy and milk at odd times. The bowels moved and the urine was passed.

August 25th.—Had several convulsions during the night, but these were thought to be due to a slipping of the dressing and consequent pressure, as they were of the right side only and ceased when the dressing was reapplied.

It was noticed that whenever the wound was dressed a

touch of the probe upon the brain beneath the opening produced a twitching of the right upper eyelid. The patient speaks rationally, can tell his name, but has no recollection of his former life or of any accident as yet.

After the 26th the temperature fell to 99° F., and kept at about that level until his recovery. The wound was dressed once or twice a day, the discharge gradually lessening until the wound closed. He gradually regained his memory, and stated that he was struck on the head about three weeks before admission to the hospital, the scar found being the scar of that wound. It never troubled him in any way, and was thought to be of no consequence. He had had severe headaches for the last week, and for a few days before admission he had noticed that his right arm and leg were not as strong as usual, but this did not bother him sufficiently to cause him to stop work, and indeed he was working at his trade—that of a fireman—upon the day we found him.

September 2d.—The patient became irrational, but his temperature and pulse remained normal, and the wound was in good condition, so no anxiety was felt. He fully recovered from the attack in twelve hours. On September 23d the patient was discharged cured. The brain had rapidly expanded and filled the space left by removal of the blood, and the wound was entirely closed. The lack of history to aid in the diagnosis of this case adds a great deal to its interest, for if the history given upon recovery could have been obtained at the time of admission, there would have been little doubt as to the probable diagnosis. When last seen (about six months after the operation) the patient was enjoying the best of health, and not affected in any way by his previous trouble.

331 West Forty-eighth Street.

Progress of Medical Science.

Cutaneous Absorption.—The question whether medicinal agents incorporated in fatty bases are capable of penetrating the skin has been a much-discussed question, and one about which opposing views have been frequently put forth. Peters (*Centralb. für Klin. Med.*, 1890) has found that when fresh ointments were employed containing iodide of potassium, a small quantity of iodine could be detected in the urine a few hours later. Paschkis and Obermayer (*Ibid.*, 1891) experimented with oleate of lithium and a solution of the chloride, and found that exceedingly small quantities passed through the skin. Now comes the question, which of the three fatty bases usually employed most favors such absorption as may take place. According to the experiments of Guinard and Bouvet (*Revue de Thér. Méd-chir.*, November 1, 1891), if you wish an active substance to pass through the derma rendered absorbent by removal of the epidermis, you must incorporate it with vaseline, while if the intention is to secure a local action limited to the surface, axunge is the proper base. These conclusions regarding the passage of substances incorporated in fats through the intact skin are in direct opposition to the results arrived at by the observers quoted above. They are as follows: 1. The intact epidermis offers an insurmountable barrier even for substances incorporated with fats. 2. Where penetration of a medicine in pomade has seemed to be demonstrated, it has been a volatile substance which has been absorbed by the respiratory passages. 3. Perhaps exception can be made for substances susceptible of giving off vapors when applied to a fine hair-covered skin, in which case the vapors penetrate by way of the hair-follicles and gland openings, but there is no absorption by the epidermis. 4. Lanoline does not favor absorption more than axunge or vaseline. 5. On absorbing surfaces (mucous membranes and skin deprived of epiderm) vaseline gives up incorporated substances most rapidly, lanoline comes next, and axunge last.

Acromegaly.—This seems to be a rare condition, of which only some forty cases have been described. Drs. Spillman and Haushalter (*Rev. de Méd.*, September, 1891) report an instance in a nun, fifty-two years of age, in whom the disease showed itself twelve years before by tingling and loss of feeling in the fingers, followed by dulness, irritability, and gradual enlargement of the features and extremities, with much thickening of the skin, rounding of the shoulders, increase in size of mouth and tongue, etc. Loss of sight in one eye was attributed, as it has been in similar cases, to neuro-retinitis resulting from pressure upon the chiasma by the hypertrophied pituitary body, always found post mortem so far as observations go. In a second instance, reported by Dr. Cepeda (*Rev. de Ciencias med.*, January 15, 1892), the disease began in a man, at the age of thirty-five, but did not seriously inconvenience him until the age of forty-eight. Here, too, the face, hands, and feet were very large, and the tongue so increased in size as to cause much inconvenience in the mouth. The wrists and ankles were not so greatly developed as the hands and feet. There was slight glycosuria and polyuria, and anaphrodisia was noted from the first. Here, as in the preceding case, the pituitary body had attained the size of a large nut, and compressed the optic nerve, but without having changed its structure. There was hypertrophy of the great sympathetic, both in its ganglia and branches. The epiphyses of the bones of the extremities were especially increased in size.

Reproduction of the Mucous Membrane of the Uterus.—From an experimental study of this question, together with the effect of the application of Canquoin's paste (zinc chloride) in the uterine cavity, Dr. Bossi draws the following conclusions (*Nouv. Arch. d'Obst. et de Gynéc.*, December, 1891): 1. The mucous membrane of the uterine body in the bitch, abraded by free cuts of the bistoury extending through its whole thickness, is reproduced in its integrity, that is to say, with the formation of true glands. 2. Reproduction takes place slowly, and sometimes, by reason of conditions not well determined, is subject to considerable retardation. 3. The covering epithelium, which primarily extends over the wounded surface, derives its small glands from the borders of the cut. 4. The newly formed glandules derive from the prolifera tion of cells a new covering epithelium when it has acquired the cylindrical form.

Vibratory Massage of the Nose.—Dr. Pierce (*The Journal*, October 10, 1891) reviews Dr. Braun's paper and relates six cases of his own, treated by the new method. Copper sounds, covered with cotton and suitably medicated, are introduced into the nostrils and made to vibrate from two hundred to three hundred times per minute, reaching in succession all parts of the nasal cavity. The originator had treated one thousand cases, and found the most striking results in fetid atrophic rhinitis, the atrophied turbinated bodies returning to their normal proportions. The conclusions reached by Dr. Pierce are: 1. To the cleanliness which is made so essential in this mode of treatment are due most of the speedy cures or relief of disagreeable symptoms, *i.e.*, fetor, secretion, etc. 2. The vibratory movements themselves may be indeed of some benefit, inasmuch as they are stimulating to the lymphatics and vascular system, but they have little or no action in regenerating atrophic tissue.

Diabetes from Removal of the Pancreas.—Dr. Lancereaux (*Bul. de l'Acad. de Méd.*, September 29, 1891) presented a dog, rendered diabetic in his laboratory, thirty-five days before, by the almost complete ablation of the pancreas, and now showing the features of pancreatic diabetes, having reached the period of marasmus. The study of the case shows that pancreatic section, with ablation of the vertical portion of the organ, produces an azoturic diabetes with phenomena of profound denutrition, soon followed by a return to perfect health. Almost complete ablation brings about in full the whole symp-

tomatology of diabetes with loss of flesh, and, while the diabetes has been intermittent, it has been unceasing in its progression. Total destruction of the pancreas, *in situ*, does not cause diabetes, while section, ablation of the normal gland, or suppressing its function always produces it. Lancereaux was the first, some eleven years ago, to demonstrate the existence of pancreatic diabetes, but like the experimental glycosuria of Claude Bernard, produced by injury of the fourth ventricle, it has not been of such value to man as had been hoped for.

Duboisin in Insanity.—Dr. L. Lewald (*Neurol. Centralb.*, October, 1891) has treated twenty-two cases of various forms of insanity with hypodermic injections of sulphate of duboisin in doses of $\frac{1}{3}$ grain and less. The effect is more marked in women than in men. Mydriasis is an early symptom. In three-quarters of the cases sleep, varying from two to seven hours, was secured, while in twenty-four per cent. a persistent state of tranquillity without sleep followed.

Revaccination.—In discussing the period of life at which revaccination should be practised, Dr. Hervieux (*Bul. de l'Acad. de Méa.*, February 2, 1892) concludes a paper as follows: 1. Revaccinations should be made, the first at ten years, the second at twenty, and revaccinations *en masse* in regions which are threatened or invaded by severe epidemic of variola. 2. No one should plead an exception to the rules of the civil or military authorities because of cicatrices of vaccination or of variola more or less marked.

Hydrocele in the Female.—A woman, aged forty-five, was admitted to the clinic presenting in the region of the labium major, and extending toward the external inguinal orifice, a good-sized tumor of elastic consistence, pseudo-fluctuating, painless, and not reducible into the abdominal cavity. It had appeared a year before without appreciable cause. An incision was made in the long axis of the tumor, which opened into a closed cavity filled with a yellow fluid. In the interior of the cavity, and floating in this fluid, was a small elongated sac, thin and transparent, filled with colorless liquid and adherent to the superior angle of the hydrocele cavity. This was evidently an old hernial sac transformed into a cyst. It was excised, the hydrocele cavity closed by suture, and the external wound closed over it. A complete cure resulted.—*Annales de la Soc. Méd.-Chir. de Liége*, December, 1891.

Some Affections of the Rectum.—The procedure which Verneuil has proposed for the cure of prolapse of the rectum has for its object the attachment of the prolapsed bowel to the region of the coccyx. The steps to be followed in operating are thus given in the *Boston Medical and Surgical Journal*, October 8, 1891: "After reposition of the prolapsed portion, with the patient in the lithotomy position, two incisions, from four to five centimetres in length, are made, at right angles to the long axis of the anus, from the opening of the latter, in an outward direction. From the point where these incisions terminate, two other incisions pass to meet each other at the point of the coccyx, thus including an equilateral triangle with its base placed anteriorly. This triangular flap is loosened from behind forward, and left temporarily attached to the tissues surrounding the anus, comprehending in its thickness the skin, the subcutaneous cellular tissue, together with the fibres of the external sphincter. With this flap strongly retracted by means of blunt retractors, the posterior wall of the rectum is loosened for a breadth of from five to six centimetres, and to a height corresponding to the distance from the anus to the tip of the coccyx. Four threads are now passed transversely through the posterior rectal wall, parallel with each other, and not including the rectal mucous membrane. The upper one of these sutures is placed at a point in close relation to the point of the coccyx, while the lower one is removed about fifteen centimetres from the anus. By means of a needle with an eye at the point, which is passed through the skin from without, the threads are drawn through the points of emergence of their respective ends, being selected at about four centimetres from the median lines at either side. The upper suture should be on a level with the articulation between the first bone of the coccyx and the sacrum, and the lower at about the point of the coccyx; the intervening sutures are placed about equidistant between. These are now secured upon one side in such a manner that the first and second, and the third and fourth are tied together, rolls of iodoform gauze being placed beneath the loops to prevent the latter from being buried with the skin; strong traction upon these secures the rectum in its new position, and the other ends of the thread are similarly secured. The triangular-shaped flap is now removed, the muco-cutaneous anal margin being preserved, and after inserting a drainage-tube the wound is closed by sutures."

In complete prolapse of the rectum Dr. Cripps (*Lancet*, No. 15, 1890) says that while complete excision is occasionally necessary, the lineal cautery, by producing an inflammatory exudate in the submucous tissue, cements the coats together and prevents the slipping of one coat upon another, and hence the prolapse. The actual cautery is preferred, and four lines are drawn from the apex of the protrusion to the margin of the anus, each a quarter of an inch wide and sufficiently deep to sear, but not to destroy, the mucous coat. In a lecture on common diseases of the rectum (the *Canada Lancet*, February, 1892) Christopher Heath says a little painful swelling caused by a bluish mass by the side of the anus, more common in men than in women, is due to a thrombus in one of the inferior hæmorrhoidal veins, the result of constipation, overloaded liver, and obstructed venous circulation. This may get well by absorption of the blood-clot and leave behind a loose fold of skin, commonly known as loose external piles. The best treatment is to make a nick with a bistoury, and turn out the clot. In ischio-rectal abscess, from whatever cause, the sooner you make an opening the better. If the rectal wall is thinned from encroachment, it is better to open at once into the rectum to avoid fistula formation. Hemorrhage from the rectum depends in the majority of cases on internal piles, but a vascular patch of mucous membrane in the rectum may be the cause. These are the only cases of rectal disease which do well under caustic, and here the strongest fuming nitric acid, or, as he prefers, acid nitrate of mercury can be used, locking up the bowels with opium for a day or two. Gonorrhœa of the rectum has been seriously questioned by many observers, but Dr. Tuttle believes the discovery of the gonococcus has put at rest all contention upon this point. He reports three cases seen during the past two years (*New York Medical Journal*, April 2, 1892), which are interesting because of the few reported cases verified as those were by examination for the bacillus. Dr. Kelsey (*New York Medical Journal*, March 26, 1892) considers the carbolic acid injection of hæmorrhoids one of the most uncertain plans of treatment. Exceptional cases, in which sloughing or gangrene took place, followed by protracted healing, etc., have led him to abandon it. Operations with the clamp and cautery give the most satisfactory results.

Accumulation of Bromide of Potassium in the Tissues.—M. Féré, in some experiments on the accumulation of bromide of potassium in the body, has found that all the tissues tend to retain the salt; those, however, of which the nutrition is slow, such as cartilage and bone, retain it longest, and the amount held in the different tissues is very varied. This result is comparable with that obtained by Richet for chloride of lithium; it appeared to him that the kidney had the greatest affinity for this latter salt.—*British Medical Journal.*

Salol.—It is now almost ten years since Nencki discovered salol, and although it has been employed therapeu-

tically only since 1886, it may be said to be constantly gaining favor and having its range of usefulness increased, both as an internal remedy and as a local disinfectant. Dr. Egasse (*Bul. Gén. de Thér.*, September 30, 1891) shows how, from its early use in rheumatism, because of its analgesic and antipyretic properties, it has been gradually adopted in the treatment of such diversified affections as urticaria, diabetes, intestinal catarrh, typhoid fever, cholera, catarrh of the bladder, migraine, sciatica, diarrhœa, gonorrhœa, gonorrhœal rheumatism, yellow fever, throat affections, pneumonia, pleuritis—to say nothing of the many local conditions in which, as an external application, it has been found invaluable. Chéron (*Journal de Méd.*, September 20, 1891) says that to be sure of absorption, it must be administered about three hours after meals, at the time when the pancreatic secretion is the most active. He advises the combination with pancreatine, salol in powder, 10 grammes; pancreatine, 2 grammes. Make twenty powders and give two three hours after each meal. In catarrh of the bladder in women, from a variety of causes, salol brings about a rapid cure if the catarrh is not of too long standing. Local applications are sometimes followed by erythema, which disappears when the salol is discontinued.

Three Varieties of Favus.—Dr. Unna reaches the conclusion, after investigation of the subject (*Fortsch. der Med.*, No. 2, 1892), that three kinds of favus exist, and he has named them griseus, sulfureus tardus, and sulfureus celerior. The fungus corresponding to each of these varieties is called achorion euthythrix, achorion dickroon, and achorion atakton. Experiments were made with mice, rabbits, and upon the experimenters themselves; and in a colored plate is seen depicted, side by side, the scutula of the griseus and sulfureus celerior varieties as they appear upon the human skin. The sulfureus tardus is shown on the head of a mouse. It has been observed that when a mouse is affected with favus he is eaten by his fellows, and the author thinks the spread of the disease is accounted for in this way. Two of the varieties have been observed upon mice in the free state. Drs. Frank, Williams, Roberts, and Douglas assisted in the investigations.

Transmissibility of Cancer.—Drs. Duplay and Cazin (*La Méd. moderne*, February 25, 1891) have communicated to the Academy of Science the results of their experiments in inoculating cancer, from which it appears that all attempts, both as regards the transfer from man to animals and from one animal to another, have failed, and they think it demonstrated that transmission does not occur. It is, however, regarded as premature by the authors to state definite conclusions respecting the transmissibility of cancer from one animal to another of the same species.

Irrigation without Catheter in Posterior Urethritis.—In order to escape the irritation which accompanies catheterization Dr. Rona (*Memorabilien*, January, 1892) employs an irrigator furnished with a hard-rubber nozzle to wash out the whole urethra in urethritis gonorrhoica totalis. With a syringe it is very difficult to throw fluid into the bladder, while with an irrigator, placed at the height of one and a half meter, the compressor is overcome, as a rule, in from a few seconds to a minute, especially if the patient's attention is distracted by conversation. The quantity of medicated liquid to be introduced is about a hundred to a hundred and fifty grammes.

Diffuse Hypertrophy of Breasts.—Dr. Porter (*Boston Medical and Surgical Journal*, No. 9, 1892) operated within an interval of three weeks on both breasts in a case of diffuse fibroma with tendency to intracanalicular growth, removing the smaller breast first, which weighed seventeen pounds, and the larger afterward, which weighed forty-three. A hard lump had made its appearance three years before, when the woman was thirty-four years of age. At the time of removal the largest circumference was thirty-eight inches. The bulk of the growth was made up of fibrous tissue rich in cells and holding in the interstices considerable thin, serous fluid. The operation was successful, as it has usually been in the nineteen cases found in the literature of the subject.

Gonorrhœal Cerebro-spinal Meningitis.—Dr. Stiénon (*Journ. de Méd.*, Bruxelles, No. 9, 1892) relates a case of cerebro-spinal meningitis in a young man, which, according to the author's views, was due to the location in the cerebro-spinal meninges of gonococci from a urethritis which was found present, just as the germs of epidemic cerebro-spinal meningitis, typhoid fever, erysipelas, acute rheumatism, etc., are capable of vegetating in this region and developing their effects. The occasional production of arthritis, peri- and endo-carditis, periostitis, and neuritis, from the presence of this micro-organism, plead in favor of the author's hypothesis, and permit the conclusion that while meningeal manifestations from gonorrhœal infection are very rare they are by no means impossible.

Chemical Research on Addison's Disease.—Following out the researches of Foa and Pellacani, by which it was shown that the aqueous extract of the supra-renal capsule was capable of producing speedy death, and the subsequent analysis which went to show that the poisonous property was due to neurine, Drs. Marino-Zuco and Dutto (*Bull. di R. ac. Med. di Roma.*, Nos. 4, 5, 1891), looking upon Addison's disease as a slow intoxication process due to the neurine, which is no longer absorbed by the altered or destroyed supra-renal capsules, have made a study of the urine in a patient thus affected during the last twelve days of his life. The reaction of the urine was acid and contained neither albumin nor sugar. A noticeable quantity of indican was shown, and after long and careful manipulation the presence of neurine was clearly demonstrated. Both supra-renal capsules were found destroyed, and there was tuberculosis of both lungs.

Clinical Department.

A CASE OF PALIMPTOSIS, ALTERNATING WITH PROPTOSIS, FOLLOWING INJURY.

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THROUGH the courtesy of Drs. Webster and Carey, in whose clinique, at the Manhattan Eye and Ear Hospital, the patient with the above-named disease presented himself, I am enabled to present the data and notes of a most interesting and rare condition, which will add one to the many obscure diseases now extant.

Martin D——, aged twenty, by occupation a coachman, informed me that at the age of eight years he was violently thrown from a wagon and struck his forehead on the ground; that the wound healed without any trouble, no abscess following. A small scar still remains at the site of the injury, a trifle to the right of the supra-orbital notch, on the right superciliary ridge

The patient's history is defective, and I am unable to obtain any facts in addition to those mentioned. The condition of which I intend writing was the immediate consequence of the injury. Upon inspecting the patient's face the asymmetry is evident, the left side of the head, from the malar bone to the parietal eminence, is more prominent than the right side; but the point of interest lies in the condition of the right orbit. The appearance is that of prothesis oculi, but a close examination shows that there is a natural eye deeply seated in the orbit; comparing this with the other side, I found that the right eye was situated 6 mm. deeper in the orbit than the left eye. The free border of the supra orbital arch is 9 mm. from the top of the eye, leaving a hollow into which the lid sinks, forming a cul-de-sac. The little finger can be insinuated into this cavity and pushed back 2 ctm. (¾ in.)

The palpebral fissure is 4 mm. wider than the left; this serves to show that a partial absorption of the orbital process of the frontal bone has taken place, and from the negative history of abscess and ulceration, and from the small size of the scar, I conclude that neither acute periostitis nor necrosis occurred, and that the change is one either of arrest of growth or of atrophy of the bone, or of both combined.

As regards the sinking in of the eye (palimptosis) this is readily explained by the absorption of the fascia tarso-orbitalis, the absence of the fatty cushion being readily appreciated by palpation.

The described condition of affairs does not seem to have caused him any great inconvenience, and it was only on account of a bulging out of the eye, accompanied by local pain referred to the posterior portion of the eye, that he sought assistance. He also mentions that he has occasional slight occipital headache. Whenever he inclines his head forward, at right angles to his body, the eye bulges, using the roof of the orbit as an inclined plane, pushes the upper lid in front of it, and when the maximum point of proptosis has been attained, the eye has emerged 12mm. from its former position, being now 6 mm. in advance of its fellow.

I observed while this phenomenon occurred that the ocular conjunctiva appeared slightly congested, immediately to return to its former normal condition when the patient raised his head and the eye sank back into the former position of palimptosis.

Some of my readers may consider that the upper lid, following the movement of the eye, simulates v. Graefe's sign of the proptosis of Basedow's disease, and in order to elucidate the matter, I wish to state that when the eye is in its deep-seated position the upper lid maintains its normal mobility and is pushed forward by the advancing eye in a purely mechanical manner.

Examination of the right eye: The eye is of normal size, the cornea, iris and conjunctiva normal. Tension normal. O. D, V. = $\frac{20}{20}$ —; emmetropic (Ophth.). O. S., V. = $\frac{20}{20}$ —; $\frac{20}{20}$ w. — 0.75 D. Sph.; error of refraction being anisometropia. Javal Ophth.: O. D., 0.5 D.; astigmatism 90 or 180 w. R. O. S., 0.75 D.; astigmatism 90 or 180 w. R. Muscular test, Stevens' method: Hyperphoria Rt. 1°, Esophoria 2°; adduction 16°; abduction 5°; sursumduction Rt. 4°; sursumduction Lft. 2°.

Ophthalmoscopic Examination.—*Direct and Indirect Methods.*—Fundus normal. No pulsation of veins or arteries. Relative size of vessels normal. Optic disk normal in color and size; but to its temporal side presents a slightly whitish appearance, with a crescentic outline, the diameter of which arc (direct method) is 2 mm. diminishing to 1 mm. at the periphery of the disk. It is to be understood, that the whitish appearance is in the papilla, to its outer side, the papilla being normal in shape, viz., circular. Scleral ring is fairly well marked. Upon closest examination it was impossible to detect anything in any way abnormal or anomalous. The peculiar shading of the disk would probably have escaped notice, had not the case been such an extraordinary one, and one in which the most scrutinizing examination was called for. I could neither see nor feel any pulsation, no aneurismal bruit could be heard; no tumor or swelling of any kind was felt. The patient, although pale, appears to be well nourished and strong, not neurasthenic; has a pulse of ninety, and regular; no cardiac murmur nor enlargement of the thyroid gland; no evidence of specific disease.

In the condition described, it is not the diagnosis which is of most value, but the etiological factor which must be ascertained. The palimptosis I have endeavored to explain by stating that the cavity of the orbit is deepened by the absorption of the cellular tissue; it now remains to explain the proptosis.

Theory No. 1.—As a result of the injury, besides the partial absorption of the portio orbitalis of the os frontis, and of the orbital fascia, a communication was established between the frontal sinus and the orbit through which air entered, thereby destroying suction, which undoubtedly, normally, assists in maintaining the eyes in position. It is a question whether this opening still exists or whether it closed shortly after the injury; the opening, if it exists, must be very small, as a careful examination fails to demonstrate its presence.

The condition of aero-orbita exists, however, whether the wall is still fenestrated or not, and this is manifest, for as soon as the centre of gravity of the eye changes, as it does when the head bends forward, the eye emerges, being attracted by gravitation, and stops only when compelled to do so as a result of its muscular attachment. The pain experienced during advancement of the eye, is due to one of three conditions, or possibly all combined: 1, Muscular strain; 2, air pressure; 3, blood pressure.

Theory No. 2.—Magnus[1] mentions briefly that a case of periodical proptosis has been observed on bending the head, as the result of varicose dilatation of the orbital veins. It is possible that a like condition may exist in this case, although here this occurs at all times, whenever the head is inclined; and I can hardly believe that a varicose vein will so greatly diminish in size, as to permit of the eye being in the position of palimptosis; also I should expect to find considerable chemosis and dilatation of the retinal veins and venæ vorticosæ, with hyperæmia of the retina, and probably also a pulsation, none of which were evident upon examination of the fundus in the erect posture. Hence, my non-belief in this theory, although I do not attempt by any means to deny its tenability.

The following three diseases—aneurism of the ophthalmic artery (branch of the internal carotid artery), aneurism of the middle meningeal (branch of internal maxillary), and arterio-venous communication in the cavernous sinus—cannot be considered as etiological factors, as their principal symptoms, viz., proptosis with pulsation, chemosis and engorgement of the veins, are not present in the case which I have described. The same objection exists as regards Basedow's disease, which presents many points of dissimilarity, which disease is of neurotic and not traumatic origin, and possesses many concomitant symptoms which do not belong to my case.

Treatment.—In concluding, a few words should be mentioned as regards our ability to relieve the condition. Treatment may be either conservative or radical; the former is decidedly more rational. I should suggest a pair of spectacles such as are used for driving, namely, with wire sides; on the right side this should be in close apposition with the eye, and by a suitable padding produce sufficient pressure to maintain the eye *in situ*, when the patient stoops. The spectacle can be kept tightly in contact with the eye, by means of a "temple" which can be wound back of the ear, and will remain there if sufficiently tight. The radical or operative method would be to make an incision into the orbit and relieve, if possible, the pathological condition. This is a method of procedure which may be followed by an orbital cellulitis, and on account of its danger I do not favor it.

Medical literature does not throw any light on the subject, and, after having searched all the ophthalmological works to which I had access, I came to the conclusion that it has been the good fortune of very few, if of any, medical men to observe such a phenomenally rare case, and Dr. Webster, whose vast experience and great ability we all acknowledge, informs me that he has never seen a case parallel to this. I have previously quoted Magnus' brief statement regarding periodical proptosis.

Schmidt-Rimpler[2] mentions enophthalmos (his word), following absorption of the orbital cellular tissue. He does not state whether it is a senile atrophic condition, this being a comparatively common occurrence, or not.

Dr. Eugene Smith, an oculist of Detroit, informed me personally of a case of congenital palimptosis due to an arrest of development of the cellular tissue.

[1] Schmidt-Rimpler's Ophthalmology, p. 532. [2] Ibid., p. 532.

Every work on ophthalmology contains chapters which bear relation to the subjects of proptosis with pulsation, and proptosis of Basedow's disease, but as these are irrelevant to the case at hand, quotations are unnecessary; but in no work have I succeeded in finding any clause or paragraph which relates to the case that I have the honor of naming and describing as palimptosis alternating with proptosis due to traumatism.

In conclusion, I desire to state that I saw the patient but once and that under unfavorable circumstances, viz., in the dispensary on a busy day, and although I should have liked to have examined his eye with the ophthalmoscope when he inclined his head, I did not find it practicable to do so, and had to content myself with a thorough examination in the erect posture.

HOTEL ENDICOTT, COLUMBUS AVENUE AND EIGHTY-SECOND STREET.

OPERATION FOR MOVABLE KIDNEY.

BY C. O. BAKER, M.D.,

SURGEON TO THE OTIS PRIVATE HOSPITAL, AUBURN, N. Y.

REPORTED BY SUSAN G. OTIS, M.D., HOUSE SURGEON.

THE patient, Angus Mac——, M.D., M.R.C.P., London; at present a resident of Santa Clara, Cal.; aged forty-five; weight one hundred and thirty-three pounds; nervo-bilious temperament; family history excellent. Had always enjoyed comparatively good health, suffering occasionally from attacks of indigestion.

In 1879, during a sea voyage lasting forty-seven days, in which he was constantly sea sick, he discovered a movable, rounded, smooth, and painless tumor in the right hypochondrium. In the recumbent position it could not be felt, but by pressing the diaphragm downward, or on standing erect, it descended about one inch below the end of the twelfth rib, and midway between that point and the median line. From that time until the present he suffered almost constantly from tenderness over the liver and stomach, front and back, indigestion with all its concomitants of flatulence, pain, constipation, etc., causing the ascending colon to become excessively distended. During the winter of 1888 there was suppression of bile with characteristic clay-colored stools, recurring from time to time and lasting from one to three days, and on one occasion four weeks. There never was any jaundice or evidence of the presence of bile in any of the secretions. In September, 1887, broken down in health, he relinquished the practice of his profession and settled in Southern California.

During the nine years extending from 1879 to 1888 the tumor had not changed in size, shape, or character. Its mobility was however much greater, hence its interference with the functions of surrounding organs increased. While in the recumbent posture or lying on the right side there was complete immunity from pain and discomfort. In standing, riding, or walking, there were dragging pains, and general suffering along the right side from the hypochondrium to the iliac region, with shooting pains around the back and pelvis, rendering it necessary for the patient to lie down to get relief. For years he was unable to lie on the left side, as the tumor invariably pressed on the pylorus, causing great gastric distress with intense pain around the back.

The patient consulted many of his confrères regarding this tumor, and received a great many different opinions; and not until May, 1888, when he visited Professor Osler, in Philadelphia, was a diagnosis of movable kidney made. Professor Osler's opinion was corroborated by the late Dr. D. Hayes Agnew, of that city, but he declined to do nephrorrhaphy, regarding it as a dangerous and unsatisfactory operation. All sorts of appliances (mechanical and otherwise) were tried, without avail. In March, 1890, the patient consulted Mr. Lawson Tait, F.R.C.S., of Birmingham, by letter, and in May visited that eminent surgeon, who expressed the opinion that the tumor was a gall-bladder distended with gall-stones, ignoring the previous diagnosis, and repudiating the existence of such a condition as movable kidney; saying in his letter: "I am very sceptical about such cases of it altogether, because in all cases so far that have been sent to me for the purpose of operating upon it, the condition when the abdomen was opened was found to be altogether different, generally impacted gall-stones in the neck of the gall-bladder." Yet, strange to say, three operations on movable kidney are reported in the Birmingham *Medical Review* as made by Tait in 1886. He made an exploratory incision over the gall-bladder, but found that organ healthy, as also the adjacent structures, and the "kidney in situ." He afterward said the tumor was an hysterical tumor.

Nearly two more years of suffering ensued, when the patient determined, after consulting Dr. Senn, of Chicago, and others, on one more effort to regain health. He was operated upon in a private hospital in Auburn, N. Y., by Dr. C. O. Baker, January 18, 1892. The patient was etherized, and placed upon the left side with a pillow so placed as to extend the space at the site of operation. An incision was made from the lower border of the twelfth rib, beginning about one inch from the external border of the erector spinæ and extending to a point one inch posterior to the anterior superior process of the ilium, in length three and one-fourth inches, and down through the latissimus dorsi, the fascia of the internal oblique, and transversalis and external edge of the quadratus lumborum. The underlying fat was divided and search made for the kidney, which was found to be so high up under the liver that it could not be easily reached by the fingers with the patient lying on the side or back, and could only be reached by placing him in a sitting position, when it was secured and brought down by a tenaculum, an act requiring considerable force.

Finding a large, roomy capsule of fat in which the kidney moved about freely when the man was about, it was gathered up and quilted together below the organ with a small circular needle armed with kangaroo tendon, the suture was tied and cut short. Two large kangaroo tendons were passed through the deep muscles and kidney, bringing them out on the opposite side of the wound in the same manner. Then one silkworm gut suture was passed deeply through the muscles and kidney (probably three-fourths of an inch deep in the kidney). These sutures were then drawn tight and tied.

The kangaroo ends were left buried, the silkworm-gut ends extending out through the opening. Then a large perineum needle was passed through the skin about three-quarters of an inch from the line of the incision, including the kidney capsules, and all tissues, brought out the same distance on the opposite side of the wound on a parallel line with, and close to, the lower border of the twelfth rib. Then a large kangaroo tendon was drawn through and tied, including the skin. This left the extremity of the kidney one-half inch below the lower border of the twelfth rib, and firmly fixed. A small drainage-tube was placed, and the wound treated as an open wound.

January 19th.—Urinated 12 midnight and 2 A.M. Some blood in urine. 6 P.M., temperature normal; passed six ounces urine, somewhat bloody. Wound dressed. Dressing saturated with serous fluid, having a strong smell of urine.

January 21st.—Temperature normal, urine increasing, slightly stained with blood.

January 22d.—Urine normal.

January 23d.—Removed the drainage-tube. Discharges ceased. Temperature normal; pulse 70. Urine increased in quantity and normal in appearance. The patient was kept in bed twenty-eight days, with no unfavorable symptoms, and no suffering except some pain caused by flatulence and indigestion.

On February 29th, he began the journey to California. He reached there in five days, and after recovering from

the fatigue of the journey reports himself gaining in strength and entirely free from his old trouble.

The tendon suture which was tied externally was absorbed in eighteen days. The silkworm-gut suture was left in and protruded, but has not at this date been removed.

RUPTURE OF THE UTERUS CAUSED BY DIVULSION.

By FRANK H. MURDOCH, M.D.,

PITTSBURG, PA.

Two years ago a patient came to me with the following history: Mrs. A——, aged thirty-five, married, never had been pregnant, appetite poor, had painful diarrhœa most of the time, and suffered intense pain for a few days previous to and during menstruation. Examination showed so much constriction at inner os that the smallest sized probe would pass only immediately after the cessation of the menstrual flow. The depth of the uterus was two and a half inches. Rapid dilatation was done under ether to the extent of an inch, twenty minutes being occupied in the operation. Result—First, menstrual period painless; second, slight pain, and third, pain quite severe. I decided to dilate again, more rapidly, and use a stem. The patient was anæsthetized. Goodell's dilator was introduced, and at the end of five minutes the dilatation was carried to the extent of $\frac{7}{8}$ of an inch. At this point the patient began to breathe through the uterus, the air entering and leaving the peritoneal cavity making a distinct blowing sound. Rupture of the fundus of the uterus at once suggested itself. I withdrew the dilator, and with the utmost care and gentleness introduced a sound into the uterus, allowing it to enter five inches, thus confirming the diagnosis of rupture. At this time the patient's pulse was ninety and jerky, and her face was bathed in cold perspiration. The treatment consisted in swabbing the cervical canal with tincture of iodine, dusting the cervix with iodoform, and introducing a strip of iodoform gauze into the uterus for drainage, holding it in position by means of a vaginal tampon of boroglyceride. She was given a hypodermic of morphia and put to bed. Her bowels were kept open once a day with Rochelle salts, turpentine stupes were applied to the abdomen, and six minims of Magendie's solution of morphia were given twice a day hypodermically to relieve pain. The tampon and iodoform gauze were removed on the second day. There was very little distention of the abdomen at any time, and only slight tenderness. The pulse never rose above 100 nor the temperature above 100½° F.; in fact she made an uninterrupted recovery. Her menstrual periods since the last dilatation have been comparatively painless, she has gained flesh, her diarrhœa has ceased to trouble her, and she considers herself well. She has not become pregnant.

Remarks.—The subject of rapid dilatation of the uterus naturally divides itself into three parts—first, rapidity of dilatation; second, extent of the dilatation, and third, the danger of the operation.

Rapidity of the Dilatation.—In regard to this question there is a great diversity of opinion. Dr. Goodell[1] screws the handles quickly together so that some of the constrictor fibres are ruptured sometimes audibly. Dr. Grandin[2] divulses the cervix in five or six minutes. Dr. Strong[3] believes that twenty to forty minutes should be the average time, and Dr. Townsend[4] advises that the dilatation be accomplished more or less gradually and not by rude, quick measures.

Extent of the Dilatation.—Drs. Ball,[5] of Brooklyn; Goodell and Ellwood Wilson, of Philadelphia; Hands and Watts, of New York, forcibly dilate the uterus under ether to the utmost limit. Dr. Townsend[1] dilates one inch, Dr. Strong[3] one and one-fourth to one and five-eighth inches, and Dr. Skene[6] dilates to the extent of admitting a No. 10 or 12 English sound.

Danger of the Operation.—Among those who consider the operation to be comparatively free from danger may be mentioned Drs. Wathen,[4] Goodell,[5] and Strong,[6] while others, as Skene,[7] Fritsch,[8] and Goelet[9] regard the operation as a dangerous one. Now, it seems to me that the extent of the dilatation, at least in the case of uteri that have never been impregnated, should govern the rapidity of the operation, for the danger evidently lies more in the rapidity with which the dilatation is accomplished than in the extent to which it is carried. If the dilatation is to be carried only to the extent of one-half an inch, it matters little how rapidly it is done, but if it is the intention to dilate an inch or more, it is safer to take plenty of time, else the operator may find himself, as I did, in uncomfortably close proximity to a ruptured uterus.

[1] Lessons in Gynecology, second edition, p. 150.
[2] Journal of Obstetrics, 1889, p. 957.
[3] Buck: Reference Handbook of the Medical Sciences, vol. vii., p. 478.
[4] Journal of Obstetrics, 1889, p. 1274.
[5] Mundé: Minor Surgical Gynecology, second edition, p. 287.
[6] Skene: Diseases of Women, p. 69.
[7] MEDICAL RECORD, September 10, 1887, p. 326.
[8] Fritsch: Diseases of Women, p. 43.
[9] MEDICAL RECORD, November 17, 1888, p. 588.

HICCOUGHS CURED BY PRESSURE UPON THE SUPRA-ORBITAL NERVES.

By A. M. BELT, M.D.,

BALTIMORE, MD.

W. L——, when wrestling on March 24th, was thrown, striking his head against a wall. The following morning he consulted a doctor with regard to his fallen palate. In the afternoon hiccoughs commenced and continued six days, when I was sent for. I found the man hiccoughing twelve to fifteen times per minute, with a forlorn and worn-out expression of countenance. As there was quite an array of medicine near by, instead of giving a prescription I applied my thumbs to the supra-orbital nerves, and within three minutes the hiccoughs were completely checked. They returned fifteen hours afterward, when pressure was again applied and the hiccoughs were suppressed for nine hours. The third and last time pressure was applied the hiccoughs disappeared to return no more.

FRACTURE OF THE FEMUR FROM MUSCULAR ACTION.

By AUGUSTUS J. BURTON, M.D.,

NEW YORK.

I THINK the following case will prove of interest. It occurred in a healthy, well-developed boy aged sixteen. He was playing ball, and was batting the ball out in the game called "fungos." He had tossed the ball in the air and was about to strike it on its return, when he fell; not that he slipped or there was any extraneous cause for it, but, as he says, he could no longer support himself, and had to drop to the ground. He felt nothing give way. His fall seemed so entirely without cause that his playmates thought he was joking. He was carried home, and upon examination I found the left femur broken, the point of fracture being at about the junction of the upper and middle third and the line apparently oblique, extending from within upward and outward. The muscles that would seem to have produced the fracture were the flexors and adductors of the thigh, as in the act he was about to perform there would be a sudden and severe demand upon the muscles that flex the body upon the left thigh and rotate it to same side.

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THE PATHS OF SENSORY CONDUCTION IN THE SPINAL CORD.

A QUESTION of very great interest to physiologists, and one of some practical importance to the physician, is that of the course of the sensory paths in the spinal cord, and the effect of lesions cutting the cord in half. This subject has recently been studied anew by Rossolymo, Gotch, Horsley, F. W. Mott, and Turner, with results which, if not conclusive, at least bring us a little nearer the solution of the problem. Gotch and Horsley employed a new and original method. It consisted in tapping the spinal cord at its lower part, connecting the substance with an electrometer, irritating the sensory nerves below the tapped level, and noting the degree of electrical change produced in the cord by the ascending impulses. They found that a greater electrical disturbance, and consequently greater amount of nerve-impulses, passed up on the same side as the irritation, in the proportion of about 80 to 20. The disturbance was greater in the lateral columns.

These experiments did not show, however, what kind of afferent impulses passed up the cord, and as a great many of these do not reach consciousness and arouse sensations, nothing very definite in regard to sensory conduction was established by their experiments.

Dr. Mott's investigations were made upon monkeys by hemisections of the spinal cord at different levels. His object was to determine the question of the decussation of cutaneous and muscular sensations, as well as their paths of conduction. There are at least seven different views held regarding these points. Ferrier thinks that all forms of sensation decussate immediately and pass up in close relation with the gray matter of the cord. Brown-Séquard thinks that all forms of sensation, except muscle-sense, decussate immediately and pass up in various channels. Schiff thinks that painful impressions decussate and pass up the gray matter, while tactile sensations do not. Woroschiloff and Miescher think that most sensory impulses decussate, and that the paths of conduction are in the lateral columns. Weiss, Homèn, and Osawa think that painful sensations pass up the lateral columns about equally on the two sides; while Horsley and Gotch find that most afferent impulses pass up on the same side. With this rich variety of opinion, the clinician may indeed be pardoned for feeling some uncertainty in attacking problems of spinal diagnosis.

Dr. Mott's experiments lead him to believe that pain and temperature sensations originating on one side pass up on each side of the cord, while tactile and muscular sensations pass up on the same side as the irritation.

The general opinion of clinicians has long been favorable to the Brown-Séquard view of the conduction of sensory impulses. The evidence from disease on man is, after all, the most conclusive and most satisfactory, and such evidence on the whole supports the original teaching of Brown-Séquard.

Dr. Turner's experiments, which seem to have been conducted with as much care as those of Dr. Mott, bear out this view also. They appear to show, however, that in the upper part of the cord the decussation may not be so complete as it is lower down. A study of Dr. Mott's cases does not necessarily negative this view.

With regard to the tracts of conduction, the secondary degenerations following hemisection of the cord, also, on the whole bear out the view of Edinger, that the nerves of cutaneous sensation pass to cells in the posterior horn, thence through the commissures to the opposite side. It is probable that pain and temperature sensations pass up in the antero-lateral tract of Gowers; that tactile sense passes up in the ventral and outer part of the posterior horn and in the deeper part of the lateral column near the gray matter. There is probably some variation in this respect at different levels of the cord.

We may, on the whole, consider that experimentation supports clinical experiences in establishing the reality of the Brown-Séquard theory, and of the Brown-Séquard paralysis.

FIVE THOUSAND MORE.

So far, fifty-five medical colleges in this country have graduated two thousand five hundred and sixty-eight students. As there are over seventy-one more colleges to hear from, the supply of doctors this year is likely to equal the demand. At present rates five thousand new doctors seems a reasonable expectation, and their work among the sixty odd millions of our population is something to be looked forward to with interest.

Meanwhile the hundred thousand doctors already at work must brace themselves for the conflict with freshly equipped rivals.

In looking over the records of medical students and graduates in the last twenty years, we note a gradual increase, from about six thousand in 1870–71, to over thirteen thousand in 1888–89. About every decade there is a slight lull. Thus in 1872 the students fell off nearly one thousand, and in 1883–84 they fell from thirteen thousand to twelve thousand. Since 1884–85 the increase has been steady, the annual rate being from five hundred to one thousand; and in 1891–92 there were probably fifteen or sixteen thousand medical students in this beautiful and healthful land.

The increase is largely due to the establishment of new schools. The number of students in the older colleges keeps slightly increasing; but the elevation of standard drives many students to cheaper colleges with shorter courses. In fact, the elevation of the standard of teach-

ing has apparently been a boon to the poorer colleges. This result, however, will be only temporary, for the State restrictions on medical practice, and the increased intelligence of the public regarding medical matters, makes it constantly more imperative that students get a good education before starting in practice.

THE ELECTRICAL CURE OF CANCER.

In the year 1889, and again in 1890, Miss Emily Faithfull had the misfortune to require treatment for epithelial cancer. Both operations were attended by a relapse. When it came time for a third operation the possible utility of electricity was suggested to her. It was tried, and she announces that the result so far has been "absolutely satisfactory." Influenced by this fact the lady has gone to work, and with a good deal of literary skill, if not of critical acumen, she has compiled all the facts she could find bearing on the subject of the treatment of cancer by electricity. Her paper, though published in the *Contemporary Review*, would be no discredit to a medical journal, except that she seems to have found in literature only those references which more or less support her view of the probable efficacy of the agent about which she shows so keen an interest. We have carefully read over her quotations, and must confess that, after all, they do not furnish any very definite data. The most pronounced effects, and those which are secured by a rational method, are recorded by Dr. Inglis Parsons, and they have already been referred to in these columns. Dr. Parsons's paper, however, though published three years ago, has not been followed by favorable reports from others, though these would pretty surely appear if all he claimed were true.

Modern surgical pathology has reached this conclusion, that cancer is a local disease, and that early, extensive, and thorough operation gives, in a good many cases, curative results. This is about all the progress that has been made in the therapeutics of cancer. Still we shall be very glad to learn that electricity has been of radical service to Miss Faithfull.

NEW YORK AND ST. PAUL.

Two things much impressed that eminent and observant author, Mr. Rudyard Kipling, while making a tour of the "States;" on the one hand, the unkemptness and misrule of New York; on the other, the scarlet-fever signs of St. Paul. Concerning the first he says, among other things, this: "It is neither seemly nor safe to hint that the government of the largest city in the States is a despotism of the alien by the alien for the alien, tempered with occasional insurrections of the decent folk. Only the Chinaman washes the dirty linen of other lands."

But to St. Paul, after discoursing upon the beauty of its suburbs, he gives this final tribute of respect and admiration: "One little brown house at the end of an avenue is shuttered down, and a doctor's buggy stands before it. On the door a large blue and white label says 'Scarlet Fever.' Oh, most excellent municipality of St. Paul! It is because of these little things, and no rowdying and racketing in public places, that a nation becomes great, and free, and honored. In the cars to-night they will be talking wheat, girding at Minneapolis, and sneering at Duluth's demand for twenty foot of water from Duluth to the Atlantic, matters of no great moment compared to those streets and that label."

Mr. Kipling lays great stress, and properly, upon the importance of preventing scarlet fever. New York, however, does not deal with this problem in any backward or unintelligent spirit. The use of the sign may answer for suburban localities, but its introduction into large and crowded cities has not yet proved to be wise or practicable. New York furnishes some excellent illustrations of smart politics and stupid citizenship, but in the matter of sanitation and public health there has been little to criticise.

ESSENTIAL DROPSY.

Modern authorities on pathology are inclined to smile at the possibility of such a thing as "essential dropsy;" Barthez and Rilliet, however, devote a chapter to this subject. Besnier, Straus, Legroux, and other writers in the Encyclopædic Dictionaries of Deschambre and Jaccoud, admit the existence of a form of dropsy which is not dependent on any of the ordinary or known causes, and which may be called essential until more is discovered regarding it. Dr. Edouard Tordens has reported a typical case of this kind in the *Archives de Méd. Belg.* The patient, a boy of seven, was taken, without known cause, with a chill, fever, lassitude, and headache, followed by œdema of the lower extremities. This œdema rapidly extended upward until anasarca was general. Some fluid was found in the pleural and peritoneal cavities also. There was no eruption, no sore throat, no heart trouble, no headache or vomiting. The urine was normal and free from albumin and casts, nor was anything morbid ever found in it, though it was examined daily for a month. The patient gradually improved, and in about six weeks was entirely recovered. Dr. Tordens reports the case as one of essential dropsy, and he explains it upon a theory of a vaso-motor paralysis leading to atony and leakage of the vessel-walls.

THE TITLE OF PROFESSOR AND DOCTOR.

Mr. Huxley, says *The Lancet*, though M.D. of Breslau and M.B. of the University of London, and the happy possessor of endless doctorates of all sorts, objects to the title of "Dr." Huxley. He can stand being called Professor, but draws the line at "Dr.," which many men seem to value so highly.

The Lancet seems to think it very natural that so great a man as Dr. Huxley should not wish to be called "doctor." It strikes us as partaking a little of snobbishness. The truly great man will not be very much concerned whether the title usually given him is "Mr." or "Major" or "Dr." or "Professor." The Hon. Chauncey M. Depew bears the indignity of a doctorate genially, and does not complain when addressed by his title. There have been other great men who were called doctors; so let Dr. Huxley not worry lest he be occasionally thought a member of the unworthy throng. Or if he is really distressed, there is, we are told, a prospering organization in this city "for the suppression of the title of Doctor among medical men." Let him join their ranks.

THE LAST OF TSANG-DING.

DING was a leper. In the RECORD of January 23d, we spoke of him and of the trouble he was causing the city authorities. He will cause them no more. On Friday night last he died. Alone. Away from friends, from home, separated from his country by a vast expanse of water, from his countrymen and fellow-men by the power of public sentiment; deprived of the comforts accorded the sick criminal by the inadequacy of provision on the part of the Government for the care of lepers, a prisoner in a secluded tent, left to live by himself and to die alone; we may well say, as we think of him in that neglected tent on a dreary island, *armes Ding*. Lo, the poor and much-abused Indian lives in history. He had a certain nobility which keeps his memory green. There is nothing very noble about a leprous Chinaman, and Ding's name will die with him. Poor Ding!

DOG-SERUM IN PHTHISIS.

THE attempts, chiefly made by French investigators, to secure a "vaccine" against tuberculosis have the merit of ingenuity, and appear to prove also some important facts in the production of immunity. Dr. J. Héricourt, in the *Archives Générales de Médecine*, has recently described the results of his work in treating the tuberculous with the blood-serum of dogs. The results present the same story—relief and cure of cases in the first stage, amelioration of cases in the second and third stage. In other words, the dog-serum was of no specific value whatever. However, there was one exception in which a case remained cured. It was one in which the dog whose serum was used had first been vaccinated against tuberculosis. It was found that dogs inoculated with bird-tuberculosis became refractory to human tuberculosis. It is now proposed by Dr. Héricourt to start with his serum injections again, having first vaccinated the dogs with the tuberculous birds.

The bacillus of tubercle, after having travelled through two or three of the animal kingdoms, ought to have its habits modified, and we trust it will satisfactorily affect the serum of the dog.

Alcoholic Injections for Cancer.—Dr. Schultz, of Buda-Pesth, reports ten cases of uterine cancer in which the disease was arrested by injections of alcohol. The patient is placed in Sims's position, a Sims speculum is introduced, and the meatus urinarius is guarded with wool lest it should be hurt by drops of alcohol falling on it. An instrument about five times the size of a hypodermic syringe, but otherwise similar, is employed. Five cubic centimetres of absolute alcohol are thrown up. The needle of the syringe should be passed about an inch into the cancerous tissues. This causes some pain, which, however, does not last long. The injections may be made daily or every other day, and the vagina should be packed with a strip of iodoform gauze after every injection. After about thirty applications of the syringe the cancerous tissue, in the cases under Dr. Schultz's treatment, almost disappeared, and epithelium grew over the eroded surface of the disease. How long this condition will last, observes Dr. Schultz at the end of one of his clinical reports, the future will show.

News of the Week.

The Practitioners' Society of New York celebrated its tenth anniversary, May 6th, by a dinner at the University Club. Dr. Peabody presided and acted as toastmaster. Speeches were made by Drs. W. M. Polk, C. L. Dana, George F. Shrady, A. A. Smith, Beverley Robinson, A. B. Ball, Robert Abbe, R. F. Weir, V. P. Gibney, and H. M. Biggs.

Castration as a Substitute for Capital Punishment.—Dr. H. A. Shelley writes to the *Medical News* regarding this subject: "Castration is not a *new substitute*, because it has been advocated since the year 1731 (*vide Medical Times and Gazette*, May 25, 1872). Dr. G. F. French, June 11, 1878, read before the Maine Medical Association a paper, entitled, 'The Eradication of Syphilis and Crime by the Extirpation, in that Class, of the Procreative Power.' Dr. Orpheus Evarts read before the Cincinnati Academy of Medicine, February 27, 1888, a concise, complete paper, entitled, 'Asexualization as a Penalty for Crime.'"

Abstracts were introduced into the United States Pharmacopœia of 1880 with a considerable expectation that a need was felt by the medical and pharmaceutical professions for just such a class of preparations. Up to this time the need has not been evident, and it might be well to consider the advisability of striking them from our official list.—DR. SQUIBB.

Application of the Sclerogenic Method to the Treatment of Ununited Fracture.—M. Ménard reported to the French Surgical Congress the cure of a case of ununited complicated fracture of the leg which had resisted the usual methods of complete immobilization for five months. M. Ménard injected into the insufficient callus 1 gramme 25 centigrammes of a ten per cent. solution of zinc chloride. From that moment consolidation made rapid progress, and in a month the patient began to walk. Here we have another success scored for the method devised by Professor Lannelongue.—*Lancet.*

Treatment of Rabies by an Intra-venous Modification of Pasteur's Method.—A highly important announcement has just been made by Professor Murri (*Riforma Medica*, April 13, 1892) with regard to the treatment of rabies. It appears that a man bitten by a rabid dog came for treatment to the Pasteur Institute at Bologna. Symptoms of paralytic rabies supervened, as sometimes occurs in certain individuals treated by Pasteur's method when the treatment does not suffice to neutralize the effects of the inoculation. The paralysis had already seized the patient from the waist downward, involving even the bladder and rectum, when Professor Murri and his assistants thought of trying the effect of intra-venous injections of the "virus fixe." As a result the alarming symptoms disappeared little by little, and now the patient is completely cured. Should the above result be confirmed on further experience, it will be readily admitted that a very great advance has been made in the treatment of rabies.—*British Medical Journal.*

One of the most Brilliant of Modern Novelists is Dr. Conan Doyle, an Edinburgh surgeon, who has, however, given up the art of medicine for the art of writing. One of his successful characters is that of an astute detective,

the prototype of whom was a Professor of Medicine at the University. This gentleman, we are told, would go into his patients' waiting-room with a face like a red Indian, and diagnose the people as they came in, before even they had opened their mouths. He would tell them their symptoms, he would give them details of their lives, and he would hardly ever make a mistake. "Gentlemen," he would say to us students standing around, "I am not quite sure whether this man is a cork cutter or a slater. I observe a slight callus or hardening on one side of his forefinger, and a little thickening on the outside of his thumb, and that is a sure sign he is either one or the other."

Dr. Patrick McShane, Assistant-Surgeon of the Twenty-second New York Cavalry from August 30, 1864, to August 22, 1865, died in Bellevue Hospital of pneumonia, on Thursday, May 5th, at the age of seventy-four. He was born in Ireland and studied medicine in Rochester. His body lay unclaimed in the Morgue for two days.

A Curious Case is reported from the Chicago Pasteur Institute. An epileptic boy underwent a course of Pasteur treatment, on account of a dog-bite, in August, 1890. Since this he has had no more attacks of epilepsy.

Pathological Liars.—Dr. Bremer, of St. Louis, claims that there is a wide distinction between physiological and pathological liars. The physiological liar is one who lies to get out of a tight place, and a pathological liar is one who lies for the art of lying. Judging from their scurrilous reports anent physicians, Chicago reporters belong mostly to the pathological variety.

The Prospects of Medical Women.—Dr. Julia Mitchell has commenced in *Woman* a series of articles indicating "what women may do in the medical profession," commencing with their prospects and personal qualifications. "Everything," the writer thinks, "seems to point to a very brilliant future being in store for medical women," but not much is said as to how far such prospects are in course of being fulfilled for the rank and file. That women are born invalids, according to Michelet's theory, Dr. Julia Mitchell stigmatizes naturally enough as "all nonsense." But she admits it to be a curious fact, whatever may be the reason, that up to the present "women have shown no overwhelming desire to monopolize the accouchement branch of practice." She indicates it as a common mistake that women, once qualified, think they have only to put a brass plate on the door and patients will come flocking and guineas pour into their hands. There are good and well-paid posts in India open to women; but this lady remarks thereupon that the climate suits few, and she thinks that "the majority of the coming English lady doctors will prefer to stay at home and try their luck." She does not give any reassuring facts or statistics in support of her cheery opinion that the chances of medical women, especially in this gigantic and ever-growing city of London, are "very favorable." She thinks the medical Code "a wonderfully complicated and abstruse affair," but she warns her colleagues: "Woe to the man or woman who transgresses it!"

Tuberculin Again.—Two German physicians, Dr. Thorner and Dr. Aufrecht, have recently reported successful results from the use of tuberculin in tuberculosis. Both physicians began with extremely small doses. Dr. Thorner says: "No other method of treatment of bacillary phthisis, not excluding the climatic and that by creosote, can show such good results as Koch's method. Certain cases of tuberculosis first treated by tuberculin improve later on with creosote."

The Woman's Hospital.—The Aldermen have agreed, on certain conditions, to let the Woman's Hospital sell the block the hospital stands on, bounded by Fourth Avenue, Forty-ninth Street, Lexington Avenue, and Fiftieth Street. One of the conditions is that fifty free beds be assigned in the hospital for the use of invalids recommended by the Aldermen. The new hospital property, which is to be paid for with the proceeds of the sale of the old, will be held on much the same terms as the old site, and cannot be disposed of except with the city's consent. It is said that the New York Central & Hudson River Railroad Company have offered the trustees nearly $1,000,000 for the plot, and that the new site, which the trustees wish to purchase in the annexed district, can be had for $300,000. Originally the city gave the present site to the hospital for $1.

Blisters and Sinapisms.—Dr. L. Devoto, in an interesting contribution to the *Gazzetta degli Ospetali*, shares Dr. Besson's conclusions as to the therapeutic value of "intense and rapid revulsion"—sinapisms, that is to say, in contra-distinction to vesicants, which represent the group of revulsants "permanent and slow." The former he finds useful in acute disease by their power of lowering the temperature, of slowing the heart's action, and of producing a general vascular dilatation. In chronic disease where is encountered a falling off of nutrition, "cutaneous excitation has the power of determining an acceleration of organic combustion," besides exercising a calmative effect, more or less enduring, more or less considerable, on the phenomenon of pain. In syncope, moreover, they re-establish pressure and arouse the cardiac function. As to the slow and feeble revulsion, of which the vesicant is nowadays almost the sole representative, Dr. Devoto's experience harmonizes with that of Dr. Besson, for whom vesicants have but one indication—that of inducing anæmia of the subjacent tissue and relieving pain. In pneumonia their use is invariably negative, or worse. They have no power over the pulmonary lesions or over its morbid symptoms. "They augment the hyperæmia, they favor the dyspnœa and hypostasis, they predispose to asphyxia, and while suppressing, it is true, the pain at a given point, they reproduce it at another." Not less useless has he found them in pleurisy, while in diabetes mellitus, he considers, they are absolutely contra-indicated, equally so in aged subjects, in children, and, generally speaking, in all maladies the characteristic note of which is failure or feebleness of the powers.

Laparotomy on the Human Ostrich.—A person known to Dime Museum-land as "the Human Ostrich," has been swallowing tacks, glass, nails, etc., for the past eight years. He was recently admitted to the St. Louis City Hospital, where laparotomy was performed. The stomach was found to contain fully a pound of shingle-nails, sharp-pointed tacks, several screws, and a number of bits of broken glass, evidently of lamp-chimneys or very thin

tumblers. One miscellaneous bunch of shingle-nails and tacks was tied with a white cotton thread, and had evidently been taken at one dose. Kennedy is twenty-one years of age. He said that the Bellevue Medical College had made him a standing offer to pay $5,000 for his body whenever he should die, so firmly did the college authorities believe that his stomach was unlike that of other persons. Dr. Marks, the Superintendent of the St. Louis City Hospital, stated, however, that it differed in nowise from the normal.—*Weekly Medical Review.*

Constipation of Infants.—Karnitzky's method of treatment by abdominal massage was used by him in twelve cases of chronic and twelve cases of acute constipation in children from eight to eleven years of age. The following are his conclusions: 1. Abdominal massage may produce effects upon the alimentary tract, in connection with digestion, which are not inferior to those produced by purgatives. 2. Habitual constipation may be easily cured by massage without the aid of purgatives. 3. The younger a child is, the more readily can the constipation be cured. 4. The younger a child is, the milder should the manipulations be, and the shorter the *séances*. 5. The duration of the *séances* should be from three to ten minutes, according to the age of the patient. Longer *séances* are inadvisable, and may even be harmful and aggravate the condition of the patient. 6. Abdominal massage may be regarded as the best means of treating constipation in children. Purgatives should only be used in exceptional cases.

A Monument to Louis XIII.'s Physician.—A committee has been formed, under the presidency of M. Jules Clarétie, for the erection of a statue of Théophraste Renaudot, who was physician to Louis XIII. In addition to his professional claims to be remembered, Renaudot was the founder of modern journalism, and it is therefore only natural to find on the committee the names of the leading pressmen of Paris side by side with those of such representative members of the medical profession as Professors Brouardel, Charcot, Cornil, and Laboulbène. Renaudot is also believed to have been the founder of gratuitous consultations, and as such may perhaps be not unjustly considered the father of the out-patient system, which, in the eyes of many members of the profession, may constitute a more questionable title to fame than those first mentioned.

The Cholera in Paris.—It is rumored that cholera has appeared in Paris; but investigations so far make it probable that it is only a "scare."

Italy receives an annual income of about $50,000,000 from invalids and guests.

Jubilees of Two German Professors.—Professor Leyden, of Berlin, who was one of the physicians in attendance on the late Emperor Frederick during the last months of his illness, celebrated his sixty-first birthday on April 20th. On the same day Professor Thiersch completed his seventieth year, and the twenty-fifth year of his occupancy of the chair of surgery in the University of Leipzig. This interesting "double event" is to be celebrated in the ceremonial fashion dear to the German heart on May 7th, when a marble bust of the Professor and an illuminated congratulatory address will be presented to the distinguished surgeon at his house.

A Physicians' Bureau of Service and Information at the World's Fair.—A Bureau of Service and Information, for the exclusive use and benefit of visiting physicians and surgeons and their families, with ample room for the successful operation of each department, and additional space for the use of the secretaries and other officers of medical societies and conventions, will be established at the Columbian Exposition by Charles Truax, Greene & Co., of Chicago. A list of leading hotels and boarding-houses will be kept, with location, description, and rates. A miniature post-office will be established, so that mail matter may be addressed to the bureau, and also telegrams. Telegraph, telephone, stenographic, district messenger, livery, cab, express, baggage, and freight service may be arranged for in the building, and legitimate rates secured. Parcels and small packages will be received and checks issued for the same. A reading and reception-room, with writing facilities and stationery, will be provided, where physicians may meet their friends, attend to correspondence, etc. Theatre, exposition, sleeping-car, and railway tickets will be secured, and assistance rendered in purchasing goods in all lines of trade. German, French, Spanish, and other interpreters will be permanently located in the building.

Dr. John Van Bibber, of Baltimore, a well-known specialist in nervous diseases, died recently, aged forty-two.

Presentation of Portraits of Dr. Oliver Wendell Holmes and Dr. Alfred Stillé to the College of Physicians of Philadelphia.—A notable occasion in recent medical annals was the presentation of a portrait of Dr. Alfred Stillé, ex-President of the Philadelphia College of Physicians, and one of Dr. Oliver Wendell Holmes, an Associate Fellow, to that body. The former, the gift of the physicians of Philadelphia, was presented through Dr. H. C. Wood, and accepted on behalf of the Fellows by the President; the latter, the personal gift of the President, Dr. S. Weir Mitchell, was accepted by the Vice-President, Dr. J. M. DaCosta. The occasion was a dinner of the College of Physicians of Philadelphia, on the evening of the 30th ult., at which were present, besides the Fellows, a number of Associates and invited guests, including Drs. William H. Welch, of Baltimore; Herman Knapp, of New York; William Osler, of Baltimore, and Talcott Williams, Esq., the entire number of those who sat down to dinner being nearly two hundred.

Dr. Charles F. Stillman, formerly of this city, died at Plainfield, N. J., on May 1st. The story of his career is a painful one. As many of our readers know, he was at one time one of the most promising and popular of the younger surgeons of this city. Two or three years ago he became involved in a domestic scandal, and left this city for Chicago. He followed his profession there, but was attacked with phthisis and came home at last to die. He was a man of large frame and robust physique, and the last person one would expect to be attacked with tubercular disease.

The Chicago Pathological Society has a lady president, Dr. Eliza H. Root.

The Measles Bacillus has been discovered, it is stated, by Dr. Canon, of Berlin.

Society Reports.

AMERICAN PEDIATRIC ASSOCIATION.

Fourth Annual Meeting, held at Boston, Mass., May 2, 3, and 4, 1892.

FIRST DAY, MONDAY, MAY 2D.

The Present Condition of Medical Research.—THE meeting was called to order by WILLIAM OSLER, M.D., of Baltimore. Dr. Osler reviewed the general condition of medicine of to-day and urged the necessity of continuing as heretofore from special branches; he also reviewed and praised the good work done by this Society, and the benefits derived from exchanging views from time to time. He also made a point worthy of mention by saying that in wealthy families who had a surgeon, a gynecologist, a dermatologist, an ophthalmologist, and laryngologist, there remained nothing for the general so-called family physician but the treatment of the diseases of children; this refers to practitioners chiefly in the larger cities.

Experiments as to the Value of Nascent Ozone in Certain Forms of Diseases of Children, with Demonstrations of an Efficient Generator.—This was the title of a paper read by DR. AUGUSTUS CAILLÉ, of New York. This apparatus was first shown at the Congress for the study of tuberculosis at Paris, in 1891, by Messrs. Labbé and Oudin. They claimed: 1. Increased metabolism in consequence of the high oxidizing power of ozone. 2. Destruction of the tubercle bacillus in the tissues in consequence of its oxidizing power and extreme diffusibility and ability to reach directly and indirectly the foci of disease in the lung. He treated three cases of tuberculosis, eleven cases of anæmia and chlorosis, and seven cases of pertussis with ozone, noting increase in weight and appetite, vital capacity, and increase in percentage of oxyhæmoglobin, and came to the following conclusions: 1. Inhalations of ozone by means of Labbé and Oudin's apparatus, have not been followed by noticeable ill effects. 2. Daily inhalations of ozone increase the quantity of oxyhæmoglobin in the blood from one to four per cent. in a short time, and this increase remains stationary for some time.

In three typical cases of limited apex tuberculosis, local improvement was not obtained.

In pertussis, ozone inhalations have a very distinct curative effect as regards duration and severity of the disease. In chlorosis and anæmia, ozone inhalations are exceedingly valuable, and give better and prompter results than any other form of medication.

DR. EMMET HOLT wished to know in what stage of the pertussis the treatment was commenced.

DR. CAILLÉ answered when paroxysms were most marked and spasms distinct.

DR. ROTCH thought good work could be done, and possibly pernicious anæmia avoided, by a careful examination of their blood.

DR. NORTHRUP asked if ozone had ever been used in purpura.

DR. CAILLÉ answered negatively, but stated that he very much desired to try it in a case of purpura.

DR. A. JACOBI said he had a case of scurvy which he will submit to Dr. Caillé for experimental treatment.

DR. BLACKADER, of Montreal, asked, is there any immediate effect on the heart of patient.

DR. CAILLÉ answered that he had noticed a slow pulse, but no other distinct heart-action.

DR. LOUIS FISCHER stated that he had examined a large number of cases of anæmia, and he had carefully examined sputa of patients sent to him by Dr. Hilgard Tyndale, of New York; that they were suffering from apparent anæmia and really suffered from a pretubercular condition; that the presence of tubercle bacilli made the diagnosis positive. He then asked Dr. Caillé if, in the cases of anæmia and chlorosis mentioned as benefited or cured, he had had excretions, as sputa, examined for bacilli.

DR. CAILLÉ replied negatively.

Manifestations of La Grippe in Children.—This was the title of a paper read by DR. CHARLES WARRINGTON EARLE, of Chicago, Ill. He called grippe a national calamity; he dwelt on the fact that influenza was contagious, and cited examples where a mother in puerperium had infected her nursling, although the period of incubation had varied from a few days to a few weeks. The period of incubation was sometimes very long and sometimes very short. Immunity was rare. There were two symptoms which he had noticed which were not recorded by others: 1. Subnormal temperature, sometimes as low as 93° F., in axilla. 2. Loss of body-weight. These were especially marked in the epidemic of 1891.

DR. ROTCH's experience differed entirely from Dr. Earle's, and might probably be because the disease is more severe in the West. The same was said about typhoid fever by Dr. Vaughn, in a discussion some few years ago. Dr. Vaughn maintained that typhoid was severer in the West than in the East. The same seemed to be true about the severity of influenza. He concluded by asking if any autopsies had been made.

DR. EARLE replied negatively.

DR. ROTCH believed, and this he made his strongest point, that the infection of influenza affects the sympathetic nervous system; which must be demonstrated, however, more clearly in the future.

DR. A. JACOBI believed, as in a paper read before the New York Academy of Medicine, that influenza could be divided into three forms: 1, Gastric; 2, respiratory; 3, nervous. He disagreed with Dr. Earle in many respects. Dr. Earle maintained that the infection in influenza is brought about by the bacillus generating a toxine, as the diphtheria bacillus generates a toxine and thus affects the general system. Dr. Jacobi did not believe this.

DR. CAILLÉ next called attention to a peculiar cough, resembling a reflex cough, like pertussis in influenza, which he found only in grippe cases.

DR. HUBER said that, although the surface temperature might be lower, he believed that a rectal temperature would show the true state of affairs.

DR. L. EMMET HOLT had not seen such serious cases as those here described by Dr. Earle. He saw about thirty to forty cases of pneumonia in the New York Infant Asylum, and believed that as they were very fatal, there might be some causal connection between influenza and the serous pneumonia. He had, however, never seen the low temperatures described by Dr. Earle, but on the contrary, always high ones.

DR. ADAMS, of Washington, said that he believed the climatic relationship had a great bearing on the kind, *i.e.*, mild or severe form, of influenza developed.

DR. BLACKADER, of Montreal, next spoke. He had noticed the peculiar cough mentioned a moment ago by Dr. Caillé in pertussis cases. He had never yet encountered a fatal case of influenza. He has had deaths from pneumonia, but none distinctly from la grippe.

DR. BOOKER, of Baltimore, had good results from boracic acid in the treatment of cough (reflex) in the naso-pharynx.

DR. EARLE closed the discussion by stating that he had had severer cases of vomiting and diarrhœa in children in midwinter than he had in summer in cholera infantum from bottle-fed babies; that he attributed this purely to the effects of the poison of influenza.

An Epidemic of Alopecia in a School of Girls.—DR. CHARLES R. PUTNAM, of Boston, read a paper with above title. He demonstrated three cases of alopecia areata. Treatment consisted in cutting their hair short and using cantharidine ointment; in some he used bichloride of mercury, 1 to 2,000, and bichloride of mercury, 1 to 1,000. Although he believed the disease due to infection

from a micro-organism, none could be found by a careful microscopical examination.

Dr. Bove examined sixty-three cases with care microscopically, never found germs nor spores.

Dr. White closed the discussion by saying he examined five or six of these cases. They seemed to differ from ordinary alopecia areata, and still he must call them so. They differed not in surface appearance, but the outlines of the spots were more angular.

Dr. A. Jacobi asked if hair that grew came out white. This was answered negatively, and the session adjourned for the day.

Second Day, Tuesday, May 3d—Morning Session.

The meeting was called to order at 10 A.M. Dr. Osler, of Baltimore, President, in the Chair.

Hydrorachis and Hydrocephalus, with Demonstration of a Carefully Prepared and Highly Interesting Specimen. —Dr. A. Jacobi, of New York, read a paper with the above title. He believed that as to injections and punctures there was little, if any, reaction, though there was a complicating disease; no vomiting, except once when there was a gastro-intestinal complication. The infant always cried during injection of an iodine solution, and quieted down within a minute after the needle was removed. Only once an ice-bag appeared to be required.

Puncture of head was tolerated without pain or uneasiness; it had no influence in diminishing the effusion; on the contrary, within a week the measurements pointing to lateral ventricle increased. It appears that without any more symptoms, the rapid effusion following the puncture may assume an inflammatory character, for the albumin increased from $\frac{1}{8}$ to $\frac{8}{10}$ per cent. within one week.

Lower Extremities: Fœtal luxation forward and upward must have taken place at an early period, for the acetabulum is filled out, indeed has lost its shape, if ever it had it. Head of femur is also abnormal. Can it be explained by insufficient or abnormal innervation? Hardly, for the muscles of the thighs are normally developed, and we do not know of any muscular traction that could tear the head out of its socket. Which, then, was the power resulting in bilateral luxation? Was it the result of early aphasia? The bone material of the vertebral column was not sufficient.

While the muscles, etc., of the thighs appear well developed, the legs are atrophied, and both feet are clubbed. It is noteworthy that the peripherous ends suffer to such an extent. This is exactly as it is in most cases of poliomyelitis of the normal infant or child. But in our case the muscles are all atrophied, extensors and flexors, while in poliomyelitis the extensors are mostly or exclusively affected. This extensor paralysis is the cause of paralytic club-foot in poliomyelitis. In our case the cause of club-foot must result from another cause, inasmuch as all the antagonists of both sides are affected, and no predominance of any one set of muscles can be suspected. I have to emphasize this point, because club-foot is a frequent occurrence in most forms of special meningocele and myelocele. I look for the cause of both the congenital luxation of the femora and the bilateral club-foot in the influence of external pressure. The mother, who had several normal children before, noticed the difference between the sizes of her abdomen during her pregnancy. There was but a small amount of liquor amnii. From the first the fœtal extremities had no space to swim in and were pressed in one direction, that one direction was but the exaggeration of the normal position of the fœtus in utero. I do not know whether this causation is acknowledged in obstetrics and pathological anatomy, but when I proposed it years ago, in reference to many forms of club-foot alone, before a society of surgeons, it met with approval. If so, in our case both the congenital luxation and the club-foot would be a complication of the hydrorachis, and not its result. Unless any other theory might be suggested, which would be that the defect in bone material, as perhaps evidenced in the lower part of the vertebral column, was equally visible in the formation of the neighboring pelvis.

Dr. Emmet Holt, of New York, stated that he made an autopsy on a child aged five months, wherein considerable fluid had been removed during life. His experience was not encouraging. He asked Dr. Jacobi if he found or knew of success to follow the operation for hydrocephalus.

Dr. Jacobi answered negatively, adding, however, that although some cases had been reported which claimed to have been cured, that these cases were, in his opinion, not long enough under observation to give a decided report, although (he humorously added), if an injury by a horn of a cow might perforate a cranium and thus allow fluid to escape, he did not see why an aseptic knife might not cause the same effect and possibly benefit.

Dr. Osler stated that Dr. Quincke had operated but with apparent success.

Dr. Koplik stated that a good surgeon in New York had operated, but after puncturing the cavity had refilled, and both his cases proved fatal. One case had convulsions and suddenly developed opisthotonos, although puncture was early.

Dr. Caillé, of New York, looked upon the operation for spina bifida as of no avail, because the malnutrition would interfere with otherwise good results. He had reported two cases in which the cyst got smaller.

Dr. Northrup, of New York, said it seemed to him that the prognosis was very unfavorable, as the post-mortem examinations of cases seen by him showed considerable dilatation of the ventricles in the brain.

Dr. A. Jacobi closed the discussion.

"Nomenclature of Diseases of the Mouth," by Dr. T. M. Rotch, of Boston, was omitted because the Committee on Nomenclature of Stomatitis postponed its report.

Pseudo-Diphtheritic Processes was the title of the next paper, read by Dr. W. D. Booker, of Baltimore. It was an extensive paper with considerable experimentation, but nothing especially new. The author confirmed the views and reports of a series of investigators, and finally demonstrated two agar specimens of staphylococcus and one of diphtheria. He devoted his investigations to the pathological anatomy and clinical observations, rather than to a distinct bacteriological investigation.

Forms of Diphtheria which Simulate Simple Angina. —Dr. Koplik, of New York, read the above paper. He announced his methods of carefully arriving at a diagnosis by a bacteriological examination, and showed several photographs of cultures with the pseudo-diphtheria bacillus, and also with the true diphtheria bacillus. He reported an important clinical observation of a few children having apparent mild forms of angina, which by a culture proved to be the virulent form of diphtheria. He had used animal experimentation, and was pleased with his results. He also referred to valuable assistance which he had received from the Carnegie Laboratory in New York. He also showed some neatly executed micro photographs of pure culture of diphtheria bacilli and involution forms, and also some of the pseudo-diphtheria bacillus. He was greatly impressed by the recent publication of Baginsky, in Berlin.

Dr. F. Huber, of New York, next presented two well-formed specimens of bronchial casts which he had received, one from a case wherein he found it necessary to perform tracheotomy.

Dr. J. Lewis Smith expressed by letter his regret at his inability to attend the meeting, owing to an attack of laryngitis. Dr. Dillon Brown, of New York, was also reported absent.

Dr. Caille opened the discussion by saying that he also had seen casts expelled after tracheotomy and was delighted to see the fine specimens of Dr. Francis Huber. Continuing, he said, in discussing Dr. Koplik's paper, that it was folly to try to discard clinical observa-

tions for bacteriological investigations. He summed up by saying that the main point was to decide at the bed-side of the patient whether we had a case of diphtheria or not.

Dr. Louis Fischer, of New York, commenting on Dr. Koplik's paper, said that while at Berlin last summer he had, under the tutorship and kindness of Dr. Baginsky, made a considerable number of investigations which he pursued at the Hygienic Institute at Berlin, and finally completely embodied them in experiments performed at the laboratory of the New York Hospital. These were carefully prepared and read before a medical society, and published in extenso in the New York Medical Record. Editorials were printed in the *Medical Age*, in Detroit, and also in the *University Medical Magazine*, in Philadelphia. He believed that it was easy, with proper precautions, to make a diagnosis with the aid of certain trifling instruments, as, for example, a long-toothed forceps properly sterilized and a few agar (glycerine) tubes. All that was required at the bed-side was to snip off a piece of supposed diphtheritic membrane, and these tubes, after being inoculated, could be laid in the thermostat, even a few hours after carrying about, without injuring the virulence of the bacillus of diphtheria.

Dr. Seibert, of New York, next asked Dr. Louis Fischer what he proposed to do in diphtheria while waiting for the guinea-pigs to die.

Dr. Fischer: Use all symptomatic treatment to counteract any serious symptom, and put the child on expectant plan of treatment; this usually did not take more than about one-half or three-quarters of a day.

Dr. A. Jacobi maintained that the stronghold in doubtful cases, be they diphtheria or not, was in isolation. He knew of many physicians who would run risks of allowing children mildly affected with diphtheria to wander about and so become dangerous to others. He knew of some who merely called those cases ending fatally, diphtheritic; cases which got well, non-diphtheritic. He furthermore impressed upon his hearers that in many cases of angina a probe could be carried into the follicle, whereas in diphtheria this is not the case. He concluded his remarks by expressing the hope that bacteriologists would find a method by which, as at present with the bacillus tuberculosis, a child could be instantly and positively examined, so that a bacteriological examination capable of being executed at the bedside by every practioner should soon loom up, and draw the line between what is and what is not diphtheria.

Afternoon Session.

Meeting called to order by Dr. A. Jacobi, of New York.

Typhoid Fever in Children under Two Years.—Dr. Northrup, of New York, read a paper with this title. He stated that he had made about two thousand autopsies, and among these he saw about one hundred and fifty cases of enlarged glands not ulcerated. This enlargement was what excited his suspicion. He furthermore believed that an enlarged spleen cannot be percussed and palpated unless it is pushed below the ribs by crowding.

A long discussion followed, which was participated in by Drs. Koplik, Huber, and Winters, of New York, Blackader, of Montreal, and others.

Cold irrigations were mentioned by Drs. Rotch and Seibert as useful, although Seibert had seen a very large hemorrhage, probably through laceration of an ulcer in the colon.

Dr. Blackader believed the reason that children were not as frequently affected as adults was because they ate and drank fluids, most of which are boiled and therefore sterilized.

The discussion was closed by Dr. A. Jacobi.

Typhoid Fever in Children.—Then followed a paper on this subject by Dr. Charles Warrington Earle, of Chicago, Ill.—The author prefaced his remarks by alluding to the exaggerated, dangerous reports of the *British Medical Journal*, and dwelt at some length upon a recent editorial in the Medical Record, entitled a "Warning to Chicago." He hoped somebody would quiet Dr. Shrady, in New York, as the dangers from contaminated water were groundless, and stated that the water in Chicago is exactly identical with that in Vienna. He then described certain peculiar symptoms noticeable in the course of typhoid fever at Chicago, and stated that one child sang first "Annie Rooney," and "Jesus, lover of my soul."

He finally concluded by urging two points: 1. That children must be kept at least four days in bed with absolute rest after the temperature has entirely subsided. 2. A fluid diet, and fluid diet only. He had seen cases relapse after allowing solid food. He had frequently allowed himself to be influenced by patients and gave them solid food, with invariably disastrous results.

Typhoid Fever in Infancy, by Dr. W. S. Christopher, of Chicago, was the title of the next paper read. Owing to absence of the author the paper was read by Dr. Perry Watson. A point strongly brought out in this paper was that bronchitis usually accompanies typhoid. The tongue is not indented by the teeth as in adults. The tip is bright-red and always moist. Face does not have typical anxious expression. The spleen he found always enlarged.

Dr. Joseph Winters, of New York, in discussion, said he could not recall one single case of typhoid under two years.

Dr. Huber had seen several cases at the clinic of Dr. Jacobi, in New York. The diagnosis of gastro-enteritis had been previously made, and only after distinct symptoms were later on pointed out by Professor Jacobi, was the diagnosis of typhoid fever made.

Dr. Adams, of Washington, believed that change of air was very beneficial in the treatment of the disease.

Dr. Northrup asked Dr. Huber if he could percuss and positively map out a spleen.

Dr. Huber replied negatively.

Dr. Rotch believed, as it was not an ulceration, we do not get perforation. He believed the diagnosis would have to be made by exclusion. He believed as the pathological changes were mild, the symptoms were accordingly mild.

Dr. A. Jacobi said he had a report of 25 cases with him: of these there was diarrhœa in 15, constipation in 6, epistaxis in 6, spleen felt in 16. He observed the roseola between the fifth and tenth day of the disease in 14 of above cases. The mortality was twenty per cent. He firmly believed he had seen a case of typhoid in a baby of three weeks.

The positive signs of diagnosis in typhoid are: 1, A double curve of temperature; 2, if child can bear a temperature of 106° F., and soon after play; 3, when roseola is present; 4, when spleen is enlarged; 5, diazo reaction (urine) described by Professor Ehrlich, of Berlin.

The next paper, by Dr. Forchheimer, "Acute Emphysema in Children," was omitted, owing to author's absence.

Pretubercular Anæmia, by Dr. B. K. Rochford, of Newport, Ky., was next read. He described one hundred and sixty-six cases of carefully observed patients in a convent. He had dwelt upon the amounts of hæmoglobin present in these cases and their influence.

He described the good results of iron in their treatment, and watched microscopically the gain in strength of the red blood-corpuscles. He believed that many of these cases of anæmia were early manifestations of a latent tuberculosis.

Dr. Fischer, in discussing the above paper, urged again what he had said yesterday while discussing Dr. Caillé's paper. He fully agreed with the author that many cases of anæmia and chlorosis were nothing else than a modified or latent form of tuberculosis; and in a case of anæmia with nothing else than an occasional

diarrhœa—and no pulmonary symptoms—the bacillus tuberculosis had been found in the stools.

On motion of DR. ROTCH a vote of thanks was extended the author, for the excellence of his paper.

Sporadic Congenital Cretinism was the title of the last paper for the day, and was read by DR. CHARLES N. TOWNSEND, of Boston.

A very clear description of a cretin and also its photograph were presented.

In the discussion which followed it was proven that, in New York, Dr. Huber had seen several cases, whereas Dr. Earle, of Chicago, had never seen a case and for this reason might call on New York.

DR. ROTCH stated that he had reported a paper eight years ago, drawing parallels between the bones of 1, case of cretinism; 2, rachitis; 3, syphilis, with a demonstration of these bones.

DR. OSLER had looked through the literature and could find but one case in American literature, this case in Massachusetts. He had heard of a case of cretinism in Canada, and while driving there called on this patient, and was disappointed in finding a dwarf rachitis.

(To be continued.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LIGATURE OF SUBCLAVIAN FOR AXILLARY ANEURISM—DISCUSSION ON PSILOSIS—THE PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS—HEREDITY IN THE MEDICAL PROFESSION.

LONDON, April 26, 1892.

AT the last meeting of the Medical and Chirurgical Society Mr. Rickman Godlee read a paper in which he gave an account of a case of axillary aneurism in which he ligatured the second part of the subclavian artery. The aneurism was on the left side and was a large one; the left subclavian was dilated, and there were signs of pressure on the brachial plexus. Tufnell's treatment was tried for three weeks, but without effect, and the aneurism appeared to be increasing in size. The left subclavian was then tied with catgut in its second part. The wound healed by first intention and the aneurism contracted slowly, but the patient complained of pain in the upper arm.

Dr. George Thin then read a paper on "The Symptoms and Pathology of Psilosis—Linguæ et Intestini." He described two typical cases and contrasted them with cases of tropical diarrhœa. In the acute condition the motions were pale yellow and liquid, but when the diarrhœa had ceased and the motions had become solid the patient passed—usually once daily—a large formed white stool. Dr. Thin adduced clinical evidence, and that of a post-mortem examination in a previously published case, to show that these white stools were coincident with a normally healthy condition of the liver and pancreas. Dr. Wethered had found that the large, creamy, soft masses passed from the bowel consisted of almost pure cultivations of bacteria, a rod-shaped bacterium of moderate and definite size largely predominating over the other organisms present. Analysis of the fæces in one case showed that half of the organic solids contained in them consisted of neutral fats, apparently milk-fat (the patient was on a pure milk diet), which had passed without being digested. Dr. Thin referred to a paper by Drs. Allan Macfadyen, M. Nencke, and M Nieber, in which it was shown (by observations in a case of fistula near the ileo-cæcal valve) that the food-mass which passed into the colon was acid, while the mucosa of the ileum was alkaline, and both the mucosa and the contents of the large bowel were alkaline. He believed that in psilosis the alkaline secretion of the mucosa of the ileum was wanting, that the food mass that passed into the large bowel was more than usually acid, and that the fæces were acid. He suggested that the abnormal reactions must produce abnormalities in the development of the bacteria normally present in the bowel, and that, under the influence of abnormal bacterial products, the normal coloring matter of the fæces was either not formed or was destroyed. The same condition, but to a less marked extent, obtained in some cases of ordinary tropical diarrhœa. He considered it an established clinical fact that persistent white stools might be passed while both the liver and pancreas were healthy.

Dr. Eccles referred to the reaction of the intestinal contents, and described some experiments which he had made with salol. This substance was quite insoluble in acid liquids, but perfectly soluble in alkaline ones. It ordinarily appeared in the urine forty-five minutes after ingestion, but in cases of psilosis or sprue, so long as diarrhœa was present, salol could not be detected in the urine till thirteen and a half hours after ingestion. This showed that the intestinal contents were acid. As the diarrhœa subsided the salol could be detected after a shorter interval, and in one case of recovery he had found it fifty minutes after ingestion. The disease could remain latent in the system for a remarkably long time; he had seen cases in which it had reappeared for the first time three to seven years after the patient had returned to this country. It could be successfully treated by a purely milk diet.

Dr. Manson said sprue might be an idiopathic disease, but was generally superadded to some disease of the lower bowel. It occasionally existed without the lower bowel being implicated, and was often present for months before the onset of the diarrhœa. The peculiar raw state of the tongue was pathognomonic of the disease. It was the most common and the most fatal of the serious tropical diseases.

Dr. Johnstone said protracted residence in malarial districts had much to do with the causation of the disease and urged that change of climate was essential for its treatment and was nearly always successful in the early stages.

Dr. Thin, in reply, said he had come across cases of psilosis in which there was no malaria coexisting. He thought the disease was distinct from "hill" diarrhœa.

Sir Andrew Clark has been re-elected as president of the Royal College of Physicians. The coming year will be the fifth during which he has held the office. It is customary to re-elect the president for a few years, and Sir William Jenner even held the office for seven years. At the College of Surgeons re-election is exceptional, and within recent years Sir William Savory was the only president who served several years. Another marked difference between the two colleges in regard to their presidents is as to the manner of election. At the College of Physicians all the Fellows have a vote in electing the president; at the Surgical College the Council elect one of their own body.

It is somewhat remarkable that of those medical men who have achieved distinguished positions few have sons who follow the profession of their fathers, and in still fewer cases do the sons achieve any position at all comparable with that of their fathers. There are numerous exceptions, of course, but these only confirm the rule. In the case of general practitioners it is more usual than otherwise for a son to adopt his father's profession, and there are country practices which have been in the same family for nearly a hundred years. In consulting practice the rule is the other way, and it looks as if the qualities which go to make up a successful consultant were not to a large extent the result of heredity. Take, for example, our nine living medical baronets. Only three of them have sons who are medical men, and in only one case is it the eldest son; this exception is in the case of Sir Andrew Clark's eldest son, who is an army surgeon. Sir Henry Acland and Sir James Paget have each a younger son in the profession. Sir William Jenner has a younger son now studying medicine, but his eldest son is a cavalry

officer. Sir William Savory's son is a clergyman. Turning to the sons of deceased medical baronets, we find that the eldest sons of Sir Thomas Watson, Sir William Gull, and Sir William Bowman were all members of the legal profession.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE BACILLUS OF MEASLES—IMMUNITY STUDIES OF BRIEGER, KITASATO, AND WASSERMANN.

BERLIN, April 18, 1892.

WHOEVER will, in future history, describe medicine in the nineteenth century, can rightly call the present epoch the bacteriological era. In reality we find among the acute infectious diseases so many unsolved problems, that this field for work certainly deserves the amount of sweat which earnest workers cause in its behalf.

The discovery of the bacillus of influenza is followed by the discovery of the bacillus of measles.

Drs. Canon and Pielicke, assistants to the general hospital Moabit, have, in the latest number of the *Berlin klin. Wochenschrift*, published an account of the above from which I extract the most important points. The bacilli were found in the blood of fourteen consecutive cases. They stain, as is the case with the influenza bacillus, with eosin and methylin blue. But only the latter staining methods are of use; for example, Gram method of staining proved negative. By the treatment of eosin-methylin blue, the measles bacilli appear with blue stain. Sometimes the staining appears uniform throughout the whole of the bacillus, sometimes the centre of the bacillus is paler, and the end poles of the bacilli intenser in staining. Sometimes only the borders of the bacilli take on the stain. The size of the bacillus is different, they sometimes appearing about one-half of the diameter of a red blood-corpuscle, other times, small bacilli appear which resemble doubled micrococci; between these there are intermediate forms. Frequently they appear broader than long, or *vice versa*, so that they resemble a double bacillus, or a bacillus divided in its centre. Frequently the bacilli are slightly bent, especially in the blood during the latter stage of the disease. The number of bacilli found in the blood was never uniform, sometimes several specimens were examined until a single bacillus could be detected; again, a single microscopical field would show innumerable bacilli. They appeared singly, but usually in piles, or bundles, ranging from eight to twenty bacilli.

The bacilli were found during the whole course of the disease, the greatest number were found when the febrile process was over. The same bacilli were found in the nasal secretions, and secretions from the conjunctival mucous membranes, and also in sputum, if any. To prove the existence and development of the bacilli, cultures were made in the usual manner. There was a drop of blood taken from the point of a finger and inoculated for development on the usual culture media, *e.g.*, glycerine, agar, blood-serum, bouillon, and milk. The only place which by experiment proved successful was bouillon. In the latter the bacilli developed, but a further development of the bacilli from the bouillon was unsuccessful.

According to Canon and Pielicke, the bacilli found by them are totally different from any previously described micro-organisms. It is hardly necessary to reiterate that in the examination two important factors are wanting: 1, the clean culture; and 2, animal experiment. The first has not been successfully carried out, the second seems not to have been tried. The scepticism which has been thrown on the etiological importance of the discovery is therefore wholly justified. In this case the importance of the presence of the bacilli cannot be underestimated, and will probably cause future investigators to fill out the necessary factors to complete the investigation according to the standard of scientific research of to-day. Then, and then only will the question of diagnosis and therapeutics be successfully discussed.

Parallel with this bacterium-hunt there is an important topic, equally as important as the bacillus question, *i.e.*, the question of immunity, now being seriously considered.

Only recently, an important series of publications by Ehrlich, Behring, Buchner, Röhmer, Klewperer, Brieger, Kitasoto, and Wassermann, giving a highly scientific and important insight into future pathology. The above discoverers pursued the problem that, in animals we must find certain conditions or factors capable of neutralizing and destroying all toxic products produced in a normal condition. These antitoxic bodies, they assume, are to be found in the thymus gland and in the lymphatic system. In order to test the accuracy of their supposition, they secured the thymus gland of a calf and made an extract therefrom. This latter extract was procured by heating to 100° C. in a steam sterilizer, and pouring the fluid so received into sterilized test-tubes. To the latter a strong pure culture was added. The result was surprising; for it was found a fourteen-day old growth of virulent tetanus bacillus was three to five thousand times weaker than the same strength of a bouillon culture.

In another mixture containing the double quantity of the thymus fluid, as in the peptone-bouillon culture, they could inoculate and protect rabbits against full virulent cultures of tetanus bacilli. The same success was found when mice were inoculated with a thymus tetanus mixture. Similar experiments were then commenced with diphtheria, typhus, swine erysipelas, and cholera.

With cholera it was found that a culture made on thymus extract of cholera culture proved, after a single heating to 65° C., to be almost poisonless in about eighty per cent. of all specimens tried.

In diphtheria the toxic properties and principles could be entirely neutralized by adding to a pure culture of diphtheria bacilli a mixture of thymus gland extracted as above.

In typhus the authors could, in the case of white mice and guinea-pigs, protect and render absolutely immune, by a single preventive treatment of a mixture of typhus-thymus culture heated to 60° C., against a full virulent culture of typhus. The blood-serum of these animals could protect other animals against the disease.

By experiments with swine erysipelas it was found necessary to combine thymus-erysipelas culture with a weakened erysipelas culture in order to insure success.

Two mice which were inoculated with a deadly culture (killing within eight to ten days) of an erysipelas culture, and in which treatment was commenced twenty-four hours later by a thymus-erysipelas culture, entirely recovered.

Four other mice infected as the above two, but without the latter antitoxic treatment, all died.

Prophylaxis of Malaria.—At Blantyre, a Scottish settlement and mission near Lake Nyasa, in Central Africa, there is published a little paper called *Mission Life and Work.* In an article referring to the ravages of malarial fevers along the common routes of travel—almost wholly by water-ways—the following statement is made: "Twelve grains of quinine with five drops of eucalyptus oil have been taken every third day during a journey lasting three weeks, from Quilimane, at the mouth of the Zambesi, up into the Lake Country; no fever developed at that time or since." The writer believes that the immunity was obtained by this combination of the oil of eucalyptus with quinine, taken at regular intervals. As an antimalarial combination, in districts where quinine alone does not suffice, this suggestion seems worthy of trial precisely as proposed.—*Journal of the American Medical Association.*

The Latest Thing in Spittoons for consumptives is a pocket arrangement, made of cardboard, in the shape of a cigar-case. The cost of it is only about three and one-half cents, and it is intended to be burned when full.

THE SANITARY CONDITIONS OF CHICAGO.

To the Editor of the Medical Record.

Sir: Your editorial on the sanitary conditions of Chicago, printed in your issue of April 23d, is calculated to cause alarm in relation to a subject on which popular feeling is sensitive, and which at this time has more than a local interest in view of the multitudes from all nations soon to be drawn to the city by the opening of the World's Fair. On such an occasion it is only just that the public should know the truth. From an article on typhoid fever in Chicago, you quote this from the *Medical Press*: "The prevalence of the disease is attributable to the unsatisfactory condition of the water-supply of the place, which is at present drawn from the river." A more erroneous statement could not easily be made. The inlet to the tunnel under Lake Michigan through which Chicago now receives its water, is in deep water, two miles from the shore of the Lake. An extension of this tunnel is now nearly completed, and in a few months the water will enter the tunnel four miles from the shore. The sewers of the city empty into the Chicago River.

From Bridgeport, at the head of the river, its waters and sewage are pumped into the Illinois and Michigan Canal, through which they are finally carried by the Illinois and Mississippi Rivers to the Gulf of Mexico. Except when—at infrequent intervals—heavy rains cause floods in the river, or the pumps become temporarily disabled, the river does not empty into Lake Michigan. New pumps are now being erected at Bridgeport, and in a few weeks are expected to be in operation, and then we will be able to pump seventy-five thousand cubic feet per minute from the river into the canal, "which will change the body of the Chicago River twice every twenty-four hours, and absolutely remove all danger from sewage to our water-supply" This quotation is from a personal communication from Dr. Ware, our Commissioner of Health. I believe our percentage of deaths to population compares favorably with that of any other large city. This, however, will certainly be reduced, for nature has favored Chicago with exceptionally healthful surroundings. But no city can be built as rapidly as Chicago has been. and still maintain everything at all times in an ideal state of perfection.

There is no more wholesome water than that with which the Great Lakes, stretching from Duluth and Chicago to the St. Lawrence, are filled, and this Chicago will supply in abundance, pure and uncontaminated, both to her citizens and the strangers within her gates. If those who attend the World's Fair have no greater cause for fear than they will find in the air they breathe and the water they drink while here, they may count themselves happy. Are we not in an unnecessary frenzy of fear of germs and microbes, and all the "gay motes that people the sunbeams?" Since we know more about them, we are ready at every turn to exclaim with Hotspur, "'Tis dangerous to take a cold, to sleep, to drink."

Ephraim Ingals, M.D.

34 Throop Street, Chicago, Ill.

THE TREATMENT OF FAVUS.

To the Editor of the Medical Record.

Sir: In your issue of April 30th, Dr. Sheldon Guthrie Evans gives results of treatment of 150 cases of favus, with bichloride of mercury dissolved in alcohol, 1 to 500, and asks for statement of results, should anyone try the method, and that he has been unable to find this treatment in any books at his command. In the American Edition of Aitken's "Practice," published in Philadelphia in 1866, from the Fourth London Edition, the author states that Kuchenmeister frequently succeeded with alcohol.

Robin, and Bazin, are credited with recommending corrosive sublimate in solution, 1 to 500.

Epilation, or shaving the scalp, is deemed necessary by the author in all cases.

From these suggestions, I was in the habit, twelve or fourteen years ago—my experience being confined to infants—of simply cutting the hair moderately close, if there was enough to be in the way, and direct the crusts to be dissolved off by washing and rubbing lightly with a soft sponge, and a saturated solution of borax, or bicarbonate of soda, in soft water; care being taken not to detach the crusts, but to dissolve them. This is rarely accomplished for several days, but the crusts can be thinned very much at each washing. Then a thorough wetting of all the diseased skin with alcohol.

Later on, becoming more familiar with the use of corrosive sublimate in surgery, I have used it in these cases in strengths varying from 1 to 3,000, to 1 to 1,000 in distilled or soft water, abandoning the alcohol altogether, washing with the solution of borax or soda, morning and evening, applying the corrosive sublimate solution immediately after, and also at noon, avoiding all oily applications, lest they interfere with the medicated solution penetrating the hair-follicles. They get well in a very short time.

It is possible that after dissolving the crusts, a complete antiseptic dressing with moist bichloride gauze would be an improvement on the plan above described, but I never thought it would add to the comfort of my little patients, and the other is so very satisfactory, and can be conducted at home by the mother. I have no record of the number of cases treated, but have used only the bichloride solution for six or seven years, and in strength very much less than that recommended.

H. W. Chapman, M.D.

Whitehall, Ill.

THE ANCIENT HISTORY OF A NEW NEEDLE.

To the Editor of the Medical Record.

Sir: In your issue of April 30th Dr. George Place Clements, of New York, gives a description and cut of a new needle for silver-wire sutures in operation for lacerated perineum, etc., which he devised, and thanks are added for Mr. C. F. Ford for the interest of manufacturing the needle and carrying out the *iaea* of the doctor.

But this needle is an invention of Dr. Alexander S. Stone, of St. Paul, of at least ten years' standing, used by him during this time, and for about six years by the writer, for the operation of lacerated perineum. As enclosed cut shows, the needle is manufactured by G. Tiemann & Co., and appears in the catalogue of this firm for many years. Respectfully yours,

H. Hahn, M.D.

St. Paul, Minn.

To the Editor of the Medical Record.

Sir: In the Medical Record for April 30, 1892, Dr. George P. Clements describes "a new surgical needle." In 1872, having seen for the first time a laparotomy, I devised an instrument similar to the one described by Dr. Clements, excepting that it was furnished with a milled wheel that materially assisted in forcing the wire through. I sent a drawing of my perforated needle to Messrs. Tiemann & Co., who returned it immediately and sent with it an instrument almost precisely similar to it, which they assured me they had had in stock for a number of years, and which, if I am not mistaken, was devised by the late Professor Edmund R. Peaslee. Possibly some of the older employees of Stohlman, Pfarre & Co. may remember such a wire-carrier. I trust that the discovery of this ancient instrument may not bring as much disappointment to your correspondent as it did to

Yours,

Vetus.

The Prescribed Course of medical instruction in the Mexican National University is seven years.

SOME FACTS FOR THE CONSIDERATION OF THE HEALTH DEPARTMENT.

To the Editor of the Medical Record.

Sir: Your article in relation to the Health Board, under date of April 30, 1892, suggests some things in reference to that department that most physicians have probably observed.

Two cases of mine recently treated will illustrate.

Mr. S——, a shoemaker, has several children. One is taken with scarlet fever. Health Board notified and promptly responded. Mr. S—— is ordered to stop making shoes. As I was present, I asked to have permission given to finish the shoes he was working on, promising to see to it that the shoes should, when finished, be sent to the Health Board for disinfection before they were sent to the shop. This was denied. However, when the department wagon called, Mr. S—— was told, "Sure any old pair will do as well," and accordingly sent an old pair of his own. The new pair was finished and sent to the shop *without* disinfection. This I learned too late to remedy the matter. Mr. S—— went to work in the shop during the child's illness, returning to the house every night.

No inquiry was made, so Mr. S—— says, regarding his other children. One was going to school, one was employed as a cash-boy in one of our large dry-goods stores, with a good chance to meet children. Two older boys were employed among men at a factory. I ordered the boy kept from school and required to see him on my call each day during school hours, as also the boy from the store, who was kept home and the firm notified. The older boys were allowed to go to work, but not to come near the patient. This last order may not have been carried out, but I thought I could trust the people, and believe they did not abuse my confidence. After the child recovered, the Health Board was notified to disinfect the rooms. They arrived promptly, but in place of disinfecting simply left something, without specific instructions, for the family to use.

Case number two was that of a widow, with two children, whose only means of subsistence was taking in washing. Health Board was notified, and, as usual, responded promptly, giving orders that no washing be taken in. Right and proper, but how was the poor woman to live? Charitable people gave me money to give to her from time to time, to aid her until the child should recover. When the child was well the Health Board was notified, so that they could disinfect. Response was prompt, but, as usual, the disinfecting was left to the family. The first trouble in all this seems to be the lack of provision by law to, in some way, reimburse people for furniture and other things destroyed by the Health Board and for provision looking to the continuance of ordinary occupation, or in default of this a fund to aid the poor when necessary, as in the case of the poor widow. It is not in human nature to enforce quarantine as strictly where such suffering is entailed. This poor woman had no coal for her fire one day when I called.

I do not wish to criticise the Health Board authorities, for I think the suggestion relative to the substitution of shoes coming from one poor man to another was but natural, and it is not always practicable, if possible, for the same officer who ordered shoes sent down to see them after they arrive.

Had the unfinished shoes been sent down and lost, as is sometimes the case, the shop-keeper would have charged them to the workman.

I believe this risk of causing suffering to poor people tempts physicians not infrequently to omit the sending of a report.

The city recognizes the tendency to keep contagious diseases from being reported when the family lose financially thereby: in the Police Department, by allowing policemen full pay during such sickness in his family, and half pay during personal sickness—and no duty performed in either case. At least this is my information. Cannot something be done in the line suggested?

Yours respectfully,

W. Washburn, M.D.

New York, May 2, 1892.

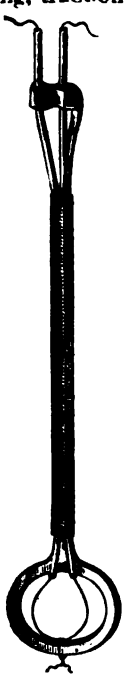
New Instruments.

AN ELECTRIC TONSIL-SNARE.

By Charles H. Knight, M.D.,

New York.

The "electric tonsil snare" here shown was suggested by a similar device proposed by Toison for use with the cold wire. The double cannula carrying the wire, No. 30 platinum, is attached to a solid steel shaft from which it is thoroughly insulated. The shaft ends in a ring whose vertical diameter is longer, to correspond with that of most tonsils. The ring may be of different sizes. The wire loop is shaped to adapt itself to the ring, to which it is fastened by a single fine thread at its distal extremity. The tonsil having been surrounded with the ring, traction is made upon the wire, bringing the loop in contact with the tonsil above and below. At this instant the current is turned on, the thread holding the wire is burned through, thus releasing the loop, the wire buries itself, and the further steps of the operation are simple. It is well to avoid excessive heat and violent traction on the wire, which is apt to break if drawn upon while very hot. A firmer, deeper eschar seems to follow the plan of making traction and burning alternately. It should always be remembered that the heat should be allowed to do the work, the loop being drawn down each time only sufficiently to cut through the portion of tissue that has been burned. The total result of this operation is not measured by the amount of tissue actually removed, since the parts left behind are cauterized to a considerable depth. Galvano-cautery operations in general are not to be recommended as substitutes for cutting. They are to be employed under one of the following conditions, namely, hæmophilia, vascular anomalies, anatomical peculiarities which preclude excision, refusal of the patient to be cut. This particular method is not feasible in children, except under general anæsthesia; it is only available in adults of considerable fortitude, and in protuberant tonsils from which the palatal folds are free.



The use of this "electric tonsil snare," in those very exceptional cases in which bloodless operations are indicated, is recommended for two reasons: First, with it there is no difficulty in placing the wire loop around the tonsil; and, second, the velum and dorsum of the tongue are perfectly guarded by the steel ring, which remains quite cool. It is hardly necessary to add that the ring should be adjusted over the tonsil first, to the outer side of the loop of wire, and should be pressed firmly outward with the forefinger applied to the shaft of the instrument exactly as in the case of the guillotine. The cannula may be used with any handle desired. My own preference is for the Schech or the Kuttner handle.

The instrument has been very neatly made by Meyrowitz.

20 West Thirty-first Street.

Primary Carcinoma of the Urethra is a rare condition, and one only recognized as a rule after removal and examination by the microscope. Dr. Witzenhausen reports, in the *Centralb. f. Chirurg.*, No. 55, 1891, two cases observed in the clinic at Heidelberg.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 7, 1892.

	Cases.	Deaths.
Typhus fever	5	4
Typhoid fever	17	7
Scarlet fever	288	46
Cerebro-spinal meningitis	2	7
Measles	733	47
Diphtheria	127	45
Small-pox	5	1
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Notes on the New Analgesics and Antipyretics.—Dr. Squibb, in his *Ephemeris*, makes these notes upon some of the popular analgesics: *Acetanilid* (antifebrin) has lost much of late of its vaunted reputation on account of its impurity. Toxic effects have been unexpectedly produced from even fairly moderate doses, although prescribers seem to differ very considerably in what they consider the proper dose. Its apparently marked antipyretic properties, with which it started out, are less relied upon than formerly. Its good effects are to be found in its analgesic and hypnotic action. Its results have been harmful in some cases of typhoid fever, especially in pregnant and nursing women. Good results are to be looked for in neurotic affections, such as lumbago, neuralgias, severe rheumatic pains, sciatica, and the like. However, it appears to be safe and useful as a hypnotic in children, especially when affected with bronchitis or croupous pneumonia. Its comparative insolubility, and thus tastelessness, together with the smallness of dose, recommend it strongly in these cases. It may be well administered by placing the drug itself, or mixed with a little sugar, well back on the tongue, rather than attempt to improvise some mixture. Notwithstanding conflicting results, this article has come to stay, and has recently been added to the British Pharmacopœia. No doubt the revisors of our own Pharmacopœia now at work will also give it attention. *Anæsthesin*, synthetically prepared, was exhibited at the last International Medical Congress in Berlin. Messrs. Gehe & Co. since then claim this to be bromacetanilid. It was a white, crystalline powder offered as a rival to cocaine in local anæsthesia. Little has been heard from it or about it since that time, and therefore we have little professional interest in it as yet. *Antikamnia*, the new "analgesic, antipyretic, and anodyne," which was so suddenly and attractively thrust upon us, proves now, upon careful analysis, to be nothing more than a mechanical mixture of acetanilid and commercial bicarbonate of sodium rubbed up into a fine powder. Its therapeutic effects have been good, but only to the same extent as acetanilid itself, with the noticeable advantage, however, of acting more quickly and in smaller doses, due no doubt to the presence of the bicarbonate of sodium. Under the above circumstances, then, it would be far better to extemporize a prescription of about seventy-five per cent. of acetanilid, and pay about one-tenth the price the leading firm exacts. *Antinervin* was introduced into medicine a couple of years ago as being analytically salicylbromanilid, and similar in its effects to acetanilid, with its accompanying disadvantages. Its recommended efficiency in diabetes has not been verified, and we hear little of it professionally. It may be of interest, however, to learn that, from a careful examination, it is now concluded to consist of a mixture of fifty parts acetanilid, twenty-five parts salicylic acid, and twenty-five parts of bromide of ammonium. *Antipyrin* has lost very little of its popularity during the past year, but the profession has been gradually learning to use it with caution. Several very trying poisoning cases, with some deaths, have occurred from its use, even after moderate doses; but the larger proportion undoubtedly were not entirely due to the antipyrin. *Phenacetin* has justly grown in favor during the past year. It had a slight set-back at one time, due to a poisoning case, but it was finally found that it had been mixed with acetanilid for commercial gain, as the prices of the two vary considerably. It has now become official in the British Pharmacopœia.

Galen's Use of Medicines. Theriaca.—Regarding the use of special medicines by Galen, I must refer to Dr Gasquet's article, indicated in the first foot-note, where many interesting details and references on this subject may be found; but I cannot pass over the great remedy called "Theriaca." For compounding this Galen had a great reputation. This word theriaca (from which our word treacle comes, from a superficial resemblance between them) is derived from the Greek θηριακα φάρμακα antidotes against the bites of wild beasts—from θηρίον and θήρ, a wild beast. Originally devised as an antidote to such bites, it came to be used, in certain of its forms, as an antidote to other poisonings, to which important people were specially liable; and from this the term came to be applied to remedies regarded as antidotal to disease. Opium was probably the most important ingredient in many, if not all, the forms of theriaca, and powdered snakes may be regarded as the most striking, from the point of view of curing *per similia!* The number of ingredients varied, but was always enormous; even in this modern French Codex (1866), the ingredients of "thériaque" number 57, including, strange as it may seem, not only "opium de Smyrne," but also "vipères sèches!" Galen informs us that not a few, and among them the Emperor Marcus Aurelius himself, took a daily dose of theriaca as a precaution or antidote.—*British Medical Journal.*

A Medical Libel Suit Amicably Settled.—A libel suit against Mr. Lawson Tait, of Birmingham, brought at the last Manchester assizes, has been placated in some way out of court, very much to the satisfaction of English medical circles. Mr. Tait, as a surgeon, has many an admirer in this country, but when he is contemplated in the light of a controversialist he has not very many imitators here. He reminds us of Dr. Johnson's definition of a Scotchman as being "a person who is always positive, and sometimes right." In this libel suit, if the account given in the London papers is reliable, Mr. Tait was positive and wrong. Briefly narrated, the trouble arose in this manner: Dr. Andrew Denholm had treated a Manchester lady-patient according to the Apostoli method of electrolysis, her disease being regarded as due to a fibroid uterine tumor. An accident in the use of the electrodes caused a vesico-vaginal fistula. On this account, Dr. Denholm lost his control of the patient, and she passed into the treatment of Mr. Tait, who did a laparotomy and removed the growth. But the patient died, and Mr. Tait wrote a letter to the husband of the lady, saying that in his opinion the death was attributable to hemorrhage, due to rupture of a vessel caused by the injurious inflammation and sloughing set up in the tissues by the electrical treatment. But for this, Mr. Tait stated in his letter, the case would have been unhampered, and recovery after operation nearly sure. When the knowledge of this letter came to Dr. Denholm, he could not rest under its aspersions, but caused an autopsy to be made on the deceased patient, in the presence of a competent jury or company of medical men. The autopsy was reported as refuting entirely the allegations of Mr. Tait as to the effects of the earlier treatment by electrolysis; there had been no inflammation or adhesions, or hemorrhage of any moment, sufficient to determine the death of the patient. The fatal issue was apparently caused by peritonitis.—*Journal of American Medical Association.*

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NEW OUTLOOKS IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

THE MIDDLETON-GOLDSMITH LECTURE FOR 1892.

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GENTLEMEN: When your Committee did me the honor to request my acceptance of the Middleton-Goldsmith lectureship of the present year and suggested the subject, "The Present Aspect of the Treatment of Tuberculous Disease, and Especially of Pulmonary Tuberculosis," my first inclination was to decline. Their representations, that a review of this subject was particularly desirable at the present time and would serve a practical purpose, have alone induced me to undertake a difficult task.

The lecture has been postponed beyond the customary time of its delivery, in the hope that investigations which have been carried on during the past winter in St. Luke's Hospital, and in the Pathological Laboratory of the College of Physicians and Surgeons, might be sufficiently advanced to be incorporated in it. This hope, in part, has been fulfilled.

Any consideration of methods of treatment of infectious diseases at the present time must necessarily be in the light of modern pathology and bacteriology. Through the discoveries in this field of medicine, the term treatment has acquired a new significance. A large number of the infectious diseases of human beings and of animals have already been shown to have their origin in specific pathogenic living organisms; and there are strong reasons for believing that a similar etiology will be demonstrated in the near future for all diseases hitherto included in this category.

In the infancy of bacteriology it was not unnaturally assumed that the sowing of the seed was alone necessary for the production of a disease; that if once the specific germ gained access to the economy its particular effects would certainly follow. The "possession of a self-protecting power by the organism of man and of the higher animals, which could exercise its influence within certain limits, either in arresting the development of the living exciters of disease or in counteracting their poisonous products," was hardly dreamed of. To-day the splendid discoveries of bacteriological research have abundantly demonstrated that an unceasing contest is being waged between the growing power and toxic activity of the pathogenic microphyte and the living organism.

In this connection what can be of more absorbing interest than the discovery by the distinguished plant physiologist, Professor Pfeffer,[1] of the group of phenomena to which he gave the name of chemotaxis, the definite relation between vital movement and chemical action. Later it was suggested by Dr. Leber that the emigration of leucocytes in the human body was due to the same power. In other words, that certain harmful substances in the living tissues, embracing effete materials, living pathogenic organisms, and viruses of various kinds, are, agreeable to a rudimentary sense of taste, as it were, in the leucocytes, which are thus allured from the media in which they commonly live toward the attracting substance.

The mustering of the leucocytes in troops, in the neighborhood of the bacterial invaders of the body, as a direct or indirect protection to it, is almost as dramatic as it is important. This action of the leucocytes, in virtue of their chemotaxis, and the final incorporation or digestion by them of the bacteria, constitutes Metschnikoff's well-known theory of phagocytosis and phagocytic immunity.

Further, we may refer to the investigations of Büchner[2] and Roemer, showing the association of a general leucocytosis with febrile inflammatory processes. They found that within eight hours after the intra-venous injection in rabbits of various proteids, there was marked leucocytosis; the relation of white to red blood-cells on the evening of the fourth day of the daily injection of solutions of the protein of the bacillus pyocyaneus (green pus) was 1 to 38, the absolute number of the red blood-cells remaining unchanged. It should be mentioned that the office of policeman, on the part of the leucocytes, is not considered proven at the present time by many. Their work as scavengers is acknowledged, but it is believed that the true guardianship of the body resides in the body fluids; in other words, that the destruction of bacteria is accomplished by the germicidal power of the latter, and their removal only is effected by the leucocytes.

Finally, we may refer to the investigations, which have shown that, "while the living tissues and fluids of the body possess the power, in varying degree, of arresting the development of living, disease-producing organisms, and of eventually destroying them, certain life products of the latter are capable of impairing or inhibiting this protective power."

In view of such facts preventive medicine must necessarily embrace the means of promoting the victory of the organism in its contest, either by strengthening its defences or by weakening or destroying the power of the growing microphyte.

With our present knowledge of the various media in which the specific living exciters of disease most commonly lurk, it should be a matter of reproach if we fail in securing a more efficient prophylaxis than has been possible in the past.

Previous to 1882 the pulmonary lesions of tuberculosis had been accurately described, and Villemin, as a result of his successful inoculations of animals, had declared it to be a specific infectious disease. With the announcement of Koch, on March 14th of the above year, that he had discovered not only the constant accompaniment but the cause of the tuberculous process, the infectious nature of tuberculosis was finally established, and the nature of the relation between specificity of cause and specificity of process in this disease was determined.

Before proceeding further it will be advantageous to have accurately pictured in our minds the pulmonary lesions which are directly or indirectly due to the tubercle bacillus. The list is indeed a formidable one. Miliary tubercles both single and conglomerate, larger and smaller areas of epitheloid cell-growth called diffuse tuberculous tissue, and various aggregations of these (often in a state of more or less advanced coagulation necrosis), disintegration, and excavation as a result of the latter, cicatricial formation, peri-bronchitis, and extensive inflammatory consolidations specific in nature; and finally we must bear in mind the bronchitis and lobular pneumonias, probably simple (unspecific) in character, so frequently present in tuberculous lungs.

In the light shed by modern research upon the posses-

sion by the organism of man of a self-protecting power against pathogenic organisms, with a knowledge of the specific organism which causes tuberculosis and the lesions which are directly or indirectly produced by its presence in the economy, we are proportionately equipped to attempt to consider the measures, prophylactic and remedial, which have been proposed to cope with the disease.

Prophylactic measures must necessarily consist of those designed to destroy the vitality of the bacillus outside of the human body, to minimize the sources of infection, and to render the tissues insusceptible to its presence.

Three possibilities suggest themselves as specific means for exercising a remedial effect. They are: 1. The discovery of a method of treatment capable of destroying the bacillus within the body. 2. Of some substance, organic or inorganic, which by its introduction into the body may so modify the action of the bacillus as to deprive it of its harmful effects. The possible abstraction of a constituent of its protoplasm or of its metabolic products, analogous to the tetanus or pneumonic anti-toxin, suggests itself in this connection 3. The discovery of a principle capable on introduction into the economy of increasing the germicidal power of the fluids of the body by stimulating cell activity, upon which it ultimately depends, or by such stimulation inducing connective-tissue changes in tuberculous tissue, or both.

Prophylaxis.—I shall first consider the prophylaxis of tuberculosis, so far as it relates to destroying the vitality of the bacillus outside of the human body and to minimizing the sources of infection.

With the discovery of the specifically infectious nature of a disease the means of infection are not necessarily directly evident. In tuberculosis a series of brilliant investigations quickly threw much light upon this point. Following Koch's discovery, it was very early shown that the bacilli were not contained in the air expired by patients suffering from pulmonary tuberculosis; on the other hand, that their sputum contained bacilli in enormous numbers. It was further shown that the bacilli were incapable of escaping from fluid media, and finally, that the sputum in the dry state, conveyed in the form of pulverized atoms by currents of air, was the most common source of infection. Successive investigations demonstrated that the stools of human beings afflicted with the intestinal form of the disease, the discharges from tuberculous ulcers, glands, and bones, were positive, if infrequent, vehicles of infection; and finally, that the milk of tuberculous cows, with or without disease localized in the udder, and tuberculous meat, were capable of producing tuberculosis in the consumer.

It will be interesting to refer at somewhat greater length to inoculation experiments and clinical observations bearing on the above points.

The elaborate investigations of Cornet [3] in the Berlin Institute of Hygiene, in regard to the distribution of the tubercle bacilli in the air, are particularly instructive. The dust from 21 wards of 7 hospitals, from 3 asylums, 2 prisons, from the living-rooms of 62 phthisical patients in private practice, from "out-patient" departments, from the public streets, and from inhalation experiment rooms was gathered, and its virulence or innocuousness determined by inoculation of susceptible animals. Of 94 animals inoculated with the dust of hospital wards, 20 became tuberculous. Virulent bacilli were obtained from 15 out of 21 medical wards. Negative results, on the other hand, were obtained from the dust of the surgical wards, also from that of the streets and the inhalation-rooms investigated. Of 170 animals inoculated with dust from the living-rooms of consumptives, 34 became infected. As 91 of the 170 died of septic disease, it is probable that the above percentage of animals in which tuberculosis was produced does not accurately represent the specific (tuberculous) virulence of such dust. The dust was taken from the walls, articles of furniture, picture-frames, etc. From the room of a consumptive in a private house, virulent bacilli were obtained six weeks after her death.

Cornet records the fact that he did not once find infective bacilli in the rooms of those patients who used only spittoons for the sputum, although especially careful search was made in these instances. Equally valuable evidence on this point is furnished by Trudeau.[4] In his sanitarium at Saranac Lake, where rigid rules in regard to the use of proper receptacles for the sputum are enforced and its efficient disinfection or destruction is accomplished, not a single employee has acquired tuberculosis during the six years since its institution.

In Dettweiler's sanitarium at Falkenstein, where presumably similar precautions are taken, a similar experience is claimed.

With such observations before us, further clinical statistics may be unnecessary, but are not without interest.

In response to questions sent in 1883, by the Collective Investigation Committee of the British Medical Association, to physicians throughout Great Britain,[5] asking for their personal experience on the communicability of phthisis, 1,078 communications were received. Of these, 673 were to the effect that cases of tuberculosis originating in infection had not come under their notice. Of the remaining 405, 261 were regarded by the Committee as positive in evidence of communicability, 39 as doubtful, and 105 as negative. Among the affirmative observers 192 reported cases of probable infection of husband by wife and the converse, and in 130 of these cases there was an entire absence of inherited predisposition on the part of the person infected.

Turning to our own country, the investigations of Flick [6] are of much interest. The localization of, and mortality from, tuberculosis in one of the wards of the city of Philadelphia, for a period of twenty-five years preceding 1888, were very carefully studied by him. It is shown that while less than one-third of the houses of the ward became infected with tuberculosis during the twenty-five years prior to 1888, considerably more than one-half of the deaths from this disease during the year 1888 occurred in infected houses. Inasmuch as there were more than twice as many non-infected as infected houses in the ward, a preponderance of deaths in non-infected houses would be expected.

Cornet's investigations of the health statistics of the Catholic Nursing Orders of Prussia [7] may be considered as supplementary to those of the same author which have already been described. Thirty-eight convents were selected, representing a yearly average of 4,028 persons, and the statistics relate to the twenty-five years preceding the year 1889. It is known that the general annual death-rate from tuberculous disease is from one-seventh to one-fifth of all deaths. Among the above orders the enormous average mortality of 62.88 per cent. is shown to be due to tuberculosis alone. In nearly one-half the convents it even rises to seventy-five per cent., and in two "Mother Houses" it was the sole cause of death. In others, the death-rate from this disease varies from forty to fifty per cent.

Cornet says that the different mortalities may be explained by the fact that some of the nurses are engaged in attending altogether, or for the most part, upon surgical cases. The average age at death of the inmates is 36.27 years, lower by ten years than that of men engaged in trades notoriously the most unhealthful, *i.e.*, file-cutters, coppersmiths, locksmiths, blacksmiths, cotton-spinners, etc. If the mortality due to tuberculosis, and that resulting from other diseases commonly regarded as infectious, are both deducted from the death-rate in the Prussian state and in the convents, it is shown that, up to the age of forty years, the death-rates in state and convents are remarkably equal From forty to sixty years, the mortality due to non-infectious diseases is less in convent than in state. Even admitting the insanitary conditions of convent life, it is impossible to believe, with our present knowledge of the etiology of tuberculous disease, that

it can produce it. On the other hand, these conditions are of the kind to lead to its rapid extension, when once introduced. It should be mentioned that the health of all persons on entering the nursing communities is excellent, admission being dependent upon medical certificates to this effect.

Among the numerous investigations,[8 9, 10], of the infectiousness of the milk of tuberculous cows, I shall only refer to the very brilliant ones of our countryman, Dr. Ernst, of the Harvard Medical School.[11] They surpass in their extent and importance those of the continental observers. Experimental inoculation in rabbits and guinea-pigs, and feeding experiments in calves and pigs with both the milk and cream of tuberculous cows without disease of the udder, proved in the most positive manner that such milk is capable of producing tuberculosis in the consumer. Incidentally, in experiments with milk taken at random from the common dairy supply of Boston, virulent bacilli were found in two instances.

If Dr. Ernst's experiments are supplemented with the clinical fact of the frequency of intestinal and mesenteric tuberculous disease in children, and with the statement, made in the form of a resolution, by the United States Veterinary Association in 1889, that from ten to fifteen per cent. of the dairy stock of the Eastern States is tuberculous, this subject assumes very grave importance. Although investigations have shown that tuberculous meat as such is infective, further experiments are necessary to determine whether those parts of a tuberculous animal usually used for food, and not specifically affected, are harmful.

I have been able to collect a large number of cases of probable inoculation tuberculosis in the human being. Many of them occurred through infection of post-mortem and dissection wounds. Among others the following are of interest:

A healthy girl, aged fourteen, without inherited predisposition, became locally infected through wearing the ear-rings of a consumptive. A tuberculous infiltration of the glands and general infection followed.[12]

A male child, very vigorous at birth, began to suffer, when three years of age, from eczema of the skin of the abdomen. Bacilli were searched for, but not discovered. After four years of age he constantly slept with his consumptive mother, and bacilli were shown to be present in the eczematous vesicles.[13]

A student received a slight wound in dissection; a nodule appeared at its site, and a swelling of the glands of the forearm followed. The glands were excised and showed central cheesy degeneration.[14]

Ten Jewish boys were circumcised by the same physician only a short time before his death from consumption. There is positive evidence that the saliva of the operator came in contact with the preputial wounds. The first symptoms of infection developed ten days later. Three of the children died of tuberculous meningitis, three of marasmus, and one of intercurrent diarrhœa. Three survived, but developed tuberculous adenitis.[15]

Accumulated experimental and clinical investigations in demonstrating the most common sources of infection, viz., the sputum of patients suffering from pulmonary tuberculosis, the milk of tuberculous cows, and finally, though to a much less extent probably, tuberculous meat, clearly indicate the direction which prophylactic measures should take.

The enormous number of tubercle bacilli contained in the sputum of patients suffering from pulmonary tuberculosis, even admitting that many of them are dead, as Kitasato very recently has shown, is well known. In a series of investigations kindly made for me by Dr. T. Mitchell Prudden, in 1891, as many as 21,460,000 were computed to be present in the daily sputum of a single patient. Nuttall's experiments,[16] conducted in the Johns Hopkins laboratory, give quite similar results.

Sawizky [17] has shown, moreover, that tuberculous sputum, dried and preserved under the conditions which usually obtain in the dwelling-house, preserves its infective properties for two and a half months.

Stone's experiments,[18] if corroborated by further investigations, apparently show that its virulence may be extended for as long a period as three years. If we further consider the exceptional resistance of the tubercle bacillus to the action of both chemical and other antiseptics, the efficient disinfection or destruction of tuberculous sputum becomes a matter of vital importance.

Chemical Disinfection.—Carbolic acid, potassa, sulphate of copper, and chloride of zinc, all in solutions of 1 to 500, were found by Grancher and de Gennes to be useless.[19] Histological examination of the sputum so treated showed no change in the appearance of the bacilli, and inoculations proved that they were still active. Later experiments [20] have demonstrated that carbolic acid, even in ten per cent. solution and after twenty-four hours' admixture with the sputum, is without effect. Corrosive sublimate is valueless, through the coagulation produced by it of the albuminoids contained in the sputum. The experimental investigations of Schottelius and Spengler,[20] with the newer antiseptics—creolin, aseptol, and lisol—of which much was hoped, have also been disappointing. Ten per cent. solutions of creolin and aseptol were found to be absolutely without effect, even after twenty four hours Lisol, however, in ten per cent. solution, proved to be capable of rendering the sputum sterile in twelve hours.

These results indicate in the most positive manner that we possess no practical means at present for efficiently disinfecting sputum by chemical antiseptics.

Experiments with heat, on the other hand, have shown that the tubercle bacilli rarely survive a temperature of 80° C., and are invariably killed at temperatures varying, according to different observers, from 90° to 100° C.[21] Simple rinsing of the cups or other receptacles of the sputum with boiling water is not sufficient, and is not without danger to the attendant. Numerous observers report cases of infection of cuts from sputum (v. Eiselsberg,[22] Fleur,[23] Holst,[24] L. Pfeiffer,[25] and others).

In view of these facts, every consumptive should possess the knowledge that while his disease is in reality a menace to those about him, the foil is within his reach. He should be taught never to use a handkerchief for the sputum, never to spit upon the floor. An appropriate receptacle of glass, china, or paper, partially filled with water should be provided for the sputum, which should be thoroughly disinfected or destroyed at least once in twenty-four hours. For its disinfection in hospitals an ordinary Arnold's sterilizer, of sufficient size to accommodate all the cups of a ward, and in which they should be placed daily for a half hour, may be used.

A far better method, in my judgment, is the destruction of the sputum by fire. The method at present in successful use in St. Luke's Hospital, and which is of easy application in private houses, consists in the use of paper-boxes, which are daily supplied to each patient, and at the end of twenty-four hours destroyed, with their contents, by fire. They are of convenient size, are very inexpensive, and the preparation used in their construction prevents all leakage. The floors and the walls of living rooms and of hospital wards of consumptives should be scrubbed or wiped with damp cloths, not swept or dusted. The cast-off clothing of such patients should be submitted to the action of live steam or to the degree of heat described as sufficient to destroy the tubercle bacillus.

Public sentiment, in the absence of legislation, should compel the proprietors of hotels and boarding-houses, at health-resorts, at least, to take such measures as can be designated, with our present knowledge, for disinfecting the living-rooms of consumptives. Further investigations are urgently needed to determine the most efficient and practical means for accomplishing this object.

A further most important prophylactic measure consists in the systematic veterinary inspection of dairies, particu-

larly those of large cities, and of slaughter-houses. Commercial considerations have secured the necessary legislation for the inspection of the pork products of the United States; a consideration of the public health should be sufficient to secure a similar legislation to minimize the sources of infection of tuberculous disease.

A bill for the inspection of dairies and the slaughter of tuberculous animals, I am happy to state, will probably be introduced in the legislative houses of the State of New York during the present session. Such an example, it is reasonable to hope, would gradually be followed by the Legislatures of other States.

In the meantime, in the absence of necessary legislation, the only safeguard possessed by the public against possible infection through dairy products consists in the sterilization of milk and cream by boiling, or through the use of steam sterilizers.*

Many of the prophylactic measures which have been mentioned have already been embodied in the form of suggestions or in laws by various governments and municipalities abroad, and the Board of Health of the City of New York has issued some admirable rules "to be observed for the prevention of the spread of consumption."

In considering the prophylaxis of tuberculosis I have purposely confined myself to measures designed to destroy the vitality of the bacillus outside of the human body, and to means for minimizing the sources of infection, in the belief that such efforts are of far greater relative value than those directed toward increasing the resisting power of the individual. I shall even go further, and thus cease to be open to the reproach that the clinician's interest in the therapeusis of the disease is almost to the exclusion of that in its prophylaxis, and assert that infinitely more can be accomplished toward the elimination of this terrible scourge by making practical use of our present exact knowledge of its etiology and prophylaxis than by any or all therapeutic measures at present at our command. As has been well said, "It is the seed of the disease, without the implantation of which there can be no harvest of death, that we are now most able to reach and destroy." We shall fail, then, in our duties as true physicians, if we do not scatter broadcast among the laity this knowledge. From a full appreciation of the dangers at their doors, and a knowledge of the means capable of diverting them, surely good fruit will be borne, even to the *enactment* and *enforcement* of laws for the protection of the public health.

In turning our attention to the remedial treatment of tuberculosis, our thoughts naturally are directed first to Koch's tuberculin.[26] His hypothesis of its specific mode of action is as follows: He particularly states that other explanations are possible and may be more correct. The tubercle bacilli in their growth produce in the living tissues, just as in artificial cultivations, certain substances which have various, but always deleterious, effects upon the living elements of their surroundings, the cells. Among these substances is one which, in a certain concentration. destroys living protoplasm and causes it to undergo what is known as a coagulation necrosis The necrotic tissue is unfavorable to the nutrition of the bacillus; its further development is checked, and finally, in some cases, its death follows. If the amount of the necrosis producing substance be artificially augmented, as he believes it to be by the introduction of tuberculin into the system, not only will the extent of the necrosis be increased, and consequently the conditions of the nutrition of the bacilli be more unfavorably affected, but also more completely necrosed tissues will disintegrate and slough, and where this is possible, take with them the inclosed bacilli, carrying them outward. Large doses of tuberculin are capable of giving rise to a certain amount of pyrexia and other symptoms in healthy persons, he believes, through irritative influences exerted upon certain elements of the tissues, probably on the white corpuscles of the blood, or cells closely related to them.

The necrosis-producing substance in tuberculin Koch now tentatively believes to be an albumose, or a substance closely related to it. Many elaborate criticisms of this hypothesis, both theoretical and based upon experimental and clinical investigations, have appeared during the past year. In a very recent monograph by Rosenbach,[27] the author denies both a specific affinity of tuberculin for tuberculous tissue and the specific action claimed for it. The general reaction and constitutional disturbance following its inoculation he believes to be due to a general irritation set up in the body, which, according to its degree, can assume the characteristics of an inflammatory action, in some cases even of a purulent type. The degree of the reaction, particularly of the fever, depends upon the predisposition of the individual to febrile disturbance. Similar constitutional disturbances have been shown to follow the inoculation of cantharidal salts and the protein of other bacteria. Rosenbach asserts that the specific activity of tuberculin can only be demonstrated when it is proved that substances derived from other micro-organisms can produce fever exclusively in subjects who are the hosts of bacteria of the same kind, and further, that they can evoke reactions only in the tissues in which changes have occurred from their action, and elsewhere remain without effect. He claims that hitherto this has not been shown. The author expresses a guarded opinion whether tuberculin produces an actual necrosis of tuberculous tissue; if it occurs, he believes it is not a coagulation (specific) necrosis, but rather is secondary to an acute inflammatory process and exudation.

A new light has been thrown on the nature and action of tuberculin through the investigations of William Hunter, of England, and the German pathologist Klebs. As early as January, 1891, the former began his investigations.[28] Starting with the assertion of Koch that the remarkable properties possessed by it, unfortunately for evil as well as for good, were due to a single active principle which constituted but a fractional part of the extract, he believed that the chemical behavior of this hypothetical principle, which was described by the discoverer as a derivative of albuminoid bodies, could not possibly apply to any one known chemical substance.

His studies had for their object: 1. To isolate the chief constituents of tuberculin and to determine their chemical nature. 2. To ascertain their action with special reference to their power of inducing the two most characteristic effects of tuberculin, viz., local inflammation and fever. 3. To ascertain how far it was possible to eliminate all substances having an injurious action, and thus to obtain remedial without injurious effects.

His results may be summarized as follows, under the heads of composition, action, and therapeutic value. The chief substances found in tuberculin are: 1, Albumoses;* 2, alkaloidal substances; 3. extractives, small in quantity and of unrecognized nature; 4. mucin; 5, inorganic salts; 6, glycerine and coloring matter.

Having ascertained that the only substances present in tuberculin with which its active properties could be associated were albumoses—organic bases of alkaloidal nature—and probably various extractives, he proceeded to determine, by experiments on mice and guinea-pigs, to which of the above substances tuberculin owed its characteristic properties, remedial and otherwise.

Four modifications of the original tuberculin were accordingly prepared by him. He has given to them the designations A, C, B, and CB, and these terms will be retained in the present paper.

From extensive investigations with these modifications he feels warranted in concluding—

1. That tuberculin owes its activity not to one prin-

* Investigations conducted in the Imperial Health Bureau of Berlin demonstrate that tubercle bacilli also retain their vitality in butter and cheese frequently for weeks.

* Albumoses; chiefly proto-albumose and deutero-albumose, along with hetero-albumose, and occasionally a trace of dys-albumose.

ciple, but to several; that its action in producing local inflammation, fever, and general constitutional disturbance is not a simple but an extremely complex one.

2. That its remedial and inflammatory actions are connected with the presence of certain of its albumoses, while its fever-producing properties are chiefly associated with substances of a non-albuminous nature.

3. By the adoption of certain chemical methods it is possible to remove the substances which cause the fever, while retaining those which are beneficial in their action.

4. That the fever produced by tuberculin is thus absolutely unessential to its remedial action. (He is inclined to believe that the inflammation is almost similarly unessential, although admitting that under certain circumstances it may assist the action of the remedial substance.)

5. That tuberculin possesses a truly remedial action, and that this is to be found in a protein, *i.e.*, in an albuminous substance derived from the plasma of the bacilli themselves, and not formed by their action upon the surrounding tissues, and finally, that it is possible to isolate largely this protein.

Dr. Hunter's clinical investigations, in which he has been assisted by Mr. Watson Cheyne, with the above modifications of tuberculin have led him to assert tentatively the following propositions: Modification A differs but slightly in its action from tuberculin. Modification C differs from tuberculin in being almost completely freed from the substance which gives rise to local inflammation. It contains, however, in a special degree, the fever-producing agents, which may be regarded as interfering with the remedial properties, and favoring rather than retarding the growth of the bacilli.

Modification CB contains the remedial substance present in C, freed from the fever-producing agents. Its use, moreover, is unattended with any of the other constitutional symptoms following the employment of tuberculin.

Modification B contains the remedial properties of CB, with the additional property of inducing local inflammation. Its action is free, so far as has yet been observed, from ill effects.

From the marked improvement which Dr. Hunter has seen occur in cases of ulcerative and other forms of lupus, where it is possible to watch the local changes from day to day, under treatment both with B and CB, he believes the activity and probable remedial power of these modifications to be demonstrated.

It yet remains to be determined whether the improvement noted in his cases will be more or less permanent. The absence of marked local inflammation or of necrotic changes accompanying their use leaves the mode of action of the above modifications of tuberculin a matter of more or less speculation at the present time. I shall refer later to the clinical investigations of other observers, and to some personal ones, with Dr. Hunter's preparations.

Professor Klebs's researches have apparently been based on the same line of thought as the above, but were made quite independently of them.[29] Convinced that tuberculin produced in the human being many effects which had nothing to do with its action upon tuberculous tissue, and which could be avoided without affecting the latter property, he submitted tuberculin to various chemical processes with the view of freeing it from its alkaloidal substances. Its noxious properties reside in the latter he believes. He claims that the extracted principle represents the secretions of the tubercle bacilli, and is a pure albumose. Experimental investigations in animals indicate that the injection of large doses of tuberculocidin, as he terms the albumose, previous to inoculation with pure cultures of the bacillus, delays the development of tuberculosis to at least twice the usual period; moreover, that a complete resolution of previously developed tubercle may occur under its use.

The best results in animals were obtained when the tuberculocidin was injected simultaneously with inoculations of the bacilli. In such animals, killed three months later, tubercle was scantily present, and few bacilli were found. In cases where treatment was begun six weeks after experimental inoculation, and continued for twenty-five days, either complete healing or a high degree of retrogradation of the tuberculous lesions was observed.

Of seventy-five critically observed cases of pulmonary tuberculosis in the human being, treated with tuberculocidin, 18.6 per cent. are claimed to have been cured, and sixty per cent. improved. In a single case of supposed tuberculous meningitis the symptoms also improved. Cases are reported in detail by Klebs in which a successful issue occurred, both tuberculin and creasote having previously failed to give good results. The treatment being practically unattended with constitutional disturbance or fever, there is no interference with the customary life and occupation of the patient.

As far as I am able to judge from Klebs's statements, the remedial properties of tuberculocidin reside wholly in its germicidal power, *i.e.*, in its ability to destroy the tubercle bacillus within the human body. He expressly states that no inflammatory process or necrosis of tissue is produced by it.

If Klebs's very positive statements on the above points are borne out by further extended observations, a far-reaching and very brilliant discovery has been given to the world.

In concluding his report Klebs remarks: "That it only remains to determine the limitations which control the cure of the disease produced by the specific bacillus, whose destruction we have succeeded in accomplishing. The first cause may vanish, and yet the pernicious results of the conditions developed from it remain. When advanced destruction of pulmonary tissue has occurred, where the general vitality has greatly depreciated, and emaciation and marked impairment of the heart's function have taken place, cure is no longer to be expected, even with the removal of the first cause of these conditions."

We have now to consider some very interesting and noteworthy investigations of Roemer and Büchner.[30] The former, as the result of his experimental researches, has made the surprising announcement that the same reactions can be obtained in tuberculous guinea pigs from inoculations with proteine containing extracts from the bacillus pyocyaneus (green pus) as with tuberculin. He found that tuberculous animals died quickly after injections of such extracts, while healthy animals lived; that lesions occurred in the liver and spleen of such animals, apparently quite similar, both macroscopical and microscopical, to those described by Koch as due to the specific action of tuberculin. Büchner has corroborated Roemer's observations of the effect of injections of the proteine of the bacillus pyocyaneus, and has found similar effects to follow the use of the proteine of other bacilli, viz., pneumo-bacillus (Friedländer) and the bacillus prodigiosus. Inoculations of healthy men with minute doses of the proteine of the pneumo-bacillus or the prodigiosus were followed by redness and swelling at the point of injection and a local rise of temperature, which gradually disappeared, and of quite similar character in the different persons experimented upon. Constitutional symptoms were not produced, Büchner suggests, on account of the smallness of the dose administered. The pronounced local reaction, in comparison with that of tuberculin, he believes to indicate a more serious action of the proteine. Büchner concludes his report of his investigations as follows: "Are the proteine extractives of the tubercle bacillus alone capable of exciting a latent irritation to an appreciable inflammation and necrosis? Are not other ordinary exciters of inflammation, especially proteines from harmless kinds of bacteria, possessed of the same power?" The observations reported by him, he thinks, speak favorably for such a possibility, and open, therefore, in a practical manner, new and perhaps not unimportant outlooks.

In the light of extended experimental investigations

and of numerous clinical observations the incorrectness of many of Koch's original hypotheses and conclusions is evident. It has been shown that tuberculin contains not one, but several active principles, respectively capable of producing different effects; that whatever remedial action it may possess resides apparently in certain of its albumoses, while its harmful properties are seemingly due to the non-albuminoid substances present in the extract. With the knowledge that tuberculin is the concentrated fluid medium in which the bacilli have been growing, thus presumably containing both the products of their growth and the proteins derived from their bodies, Prudden's experimental studies[31] of the action of dead tubercle bacilli would seem to be further corroborative of the above views. His experiments indicate that the dead bacilli, freed so far as is possible from the products of their growth, are capable of enormously stimulating cell activity and of producing lesions morphologically similar to tubercle, but "which are not indefinitely progressive, and do not tend to the production of an advancing coagulation necrosis, and finally, do not induce an infectious disease."

A legitimate conclusion from these observations would seem to be that the coagulation necrosis, which Koch's hypothesis regards as the remedial mode of action of tuberculin, is dependent upon a metabolic product of the growth of the bacillus.

In view of the remedial effects obtained by Hunter, Cheyne, and Klebs from the use of a tuberculin presumably freed from metabolic products, and the apparent demonstration by Prudden that a constituent of the protoplasm of the dead bacillus, probably a proteine, is capable of enormously stimulating cell activity, it is justifiable to feel that much light has been thrown on a most complex question.

Whatever beneficial results were obtained from Koch's original tuberculin, I am convinced were not through, but in spite of, a production of coagulation necrosis; and that the benefit claimed to-day by many, from its use in exceedingly small doses, is partly through the avoidance of such an effect. In exceedingly minute doses it is possible that the action of the cell-stimulating proteine preponderates, and thereby a remedial influence is exerted.

A rather large clinical experience, now extending over a period of eighteen months, leads me to reiterate an opinion previously expressed, "that tuberculin contains a remedial principle."

This view is shared, among our own countrymen, by Trudeau and von Ruck, gentlemen who have enjoyed in their sanitaria the widest possible opportunities for thoroughly studying the subject.

In a recent communication by Schede, of Hamburg,[32] than whom no continental surgeon has a larger clinical experience, a similar opinion is expressed. In concluding this portion of my subject I cannot but express my abiding and earnest belief that the continued and exhaustive investigation of Koch's discovery will lead either to such modifications of the original extract, or to the preparation of a new one based upon a similar principle, as will place in our hands an agent specific in character and remedial in tuberculosis in a degree hitherto believed to be unattainable.

The results obtained in the wards of St. Luke's Hospital in the treatment of pulmonary tuberculosis with modifications of tuberculin, already effected, will be appended to the present lecture.

Treatment of Pulmonary and Laryngeal Tuberculosis by the Cantharidates.—In February, 1891, Professor Liebreich, in a paper read before the Berlin Medical Society, announced that he had discovered a new remedy for the treatment of tuberculous disease. The property of cantharidin, when taken internally, of producing an exudation of serum from the capillaries not only of the kidneys, but also of the lungs and other organs, unattended with increased arterial tension, hyperæmia, or extravasation of blood, when used in sufficiently small doses, forms the basis of his theory.

The irritability of the capillaries, according to Liebreich, varies in different parts of the organism in health; in an abnormal state, such as may be assumed to be their condition at the site of local disease, this irritability is increased. By furthering such irritability by the use of the cantharidates, an exudation of serum occurs which may favorably affect tuberculous tissue in two ways: 1, by stimulating cell activity and nutrition; 2, through the germicidal action of the serum upon the bacteria.

His experimental investigations apparently indicate in a measure the correctness of his theory. The remedial effects which have followed the use of the cantharidal preparations, while occasionally striking, especially in the case of laryngeal tuberculosis, fall short of securing to them, it seems to me, a permanent place among the therapeutics of tuberculosis.

Their apparent action is in harmony with one of the possible means of a remedial treatment of tuberculosis. Cell activity is stimulated and specifically diseased tissues are subjected to the germicidal action of the blood-serum artificially increased at the site of the disease. There is a failure possibly in the degree rather than in the kind of action. The preparations at present employed are the potassium and sodium cantharidates. They are administered hypodermatically at intervals of forty-eight hours or longer, and in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain. The latter strength not infrequently causes symptoms of vesical and renal distress. Their use is contra-indicated in the presence of intestinal and renal disease, and in patients with marked hectic.

Treatment with the Serum of Dog's Blood.—The interesting experimental investigations of Richet and Héricourt, announced during the past year to the French Academy of Sciences,[33] with the serum of dog's blood in the treatment of tuberculosis, are in the line of thought that at present underlies our attempts to cope with the disease. These observers have been able to demonstrate that in rabbits inoculated with a culture of the tubercle bacillus, the evolution of tuberculosis can be arrested by subsequently subjecting the animal to injections of dog's serum. When very virulent cultures are employed, the evolution is only delayed. Injections of a healthy animal with the serum prevent the development of experimental tuberculosis at a later period. The effective substance has not been identified as yet, but a small dose of the serum is sufficient (one-half cubic centimetre per kilo of the rabbit).

The clinical results obtained in tuberculous disease of human beings by this method of treatment, which has been fully tried in the Paris hospitals, would indicate that it also fails rather in the degree than in the kind of its action. It certainly acts as a potent stimulant to cell activity. Whether it possesses another action is undetermined.

Chloride of Zinc Treatment.—I shall briefly refer to the treatment of tuberculous disease with chloride of zinc injections at the site of the disease, announced to the French Academy of Sciences in July of the past year, by Professor Lannelongue.[34]

It is based essentially on the simple fact that fibrinous induration is to be regarded as the natural curative process in tuberculous lesions. The power of the chloride of zinc to excite such sclerotic processes, when administered in sufficiently small quantity to avoid its more powerful escharotic action, suggested its use in the disease in question. Its action in experimental tuberculosis is thus described by M. Lannelongue and M. Achard. The anatomical elements of the tissues which it penetrates are destroyed and an enormous proliferation of embryonic cells occurs, not only at the site of the injection but for some distance around it, with infiltration of the tuberculous tissue with migratory cells to the fullest extent. M. Lannelongue suggests that the latter may destroy the bacilli through the exercise of their phagocytic function. The morbid tissue destroyed by the chloride of zinc is

slowly absorbed and disappears; the embryonic cells, on the contrary, organize with great rapidity and form firm fibrous tissue, which exists in appreciable quantity as early as the day following the injection.

Twenty-two patients were subjected to this treatment by M. Lannelongue. The list embraces two cases of pulmonary tuberculosis and twenty of suppurating and non-suppurating tuberculous disease of joints and glands. Excellent results are claimed to have been obtained in a majority of the latter. An opportunity was afforded in a case of more or less fused tuberculous glands for comparing histologically, glands which had been injected and those which had been left without treatment. Excision showed caseous material surrounded by a zone of tuberculous tissue within a fibrous sheath in each; in the injected glands, however, there was a large amount of dense fibrous tissue and firm adhesion to the investing membrane. A report of the results in the pulmonary cases was reserved until a longer period had elapsed.

While recognizing the possible utility of this method of treatment in tuberculous joint and gland disease, either as a remedial measure or as an adjunct to surgical procedures, and suggesting the desirability of more extended investigations in this direction, its application in pulmonary tuberculosis, in my judgment, should be regarded with the greatest reserve. Aside from the difficulty of introducing intra-pulmonary injections in any exact way at the site of the lesion, the extent and complexity of the morbid conditions usually present would seem to preclude the possibility of its usefulness as a method of treatment.

The technique of the method employed by M. Lannelongue is to inject two drops of a ten per cent. solution, in a number of places around the periphery of the diseased part, in cases of tuberculous joints, bones, and glands. Suppurating glands are thoroughly irrigated with sterilized water and the injections made under rigid antiseptic precautions. In cases of pulmonary tuberculosis a solution of one in forty is used for the injections.

The Treatment of Tuberculosis with Creasote, Guaiacol, and Carbonate of Guaiacol.—The literature of the treatment of phthisis pulmonalis with creasote, both by internal administration and by inhalation, is sufficiently familiar to those interested in the subject to warrant the briefest reference to it. Discovered by v. Reichenbach in 1830, it quickly secured a reputation in Germany, France, and England as a remedial agent in pulmonary disease. It, however, gradually fell into disuse, and was only rehabilitated in favor in 1877, through the admirable clinical paper of Bouchard and Gimbert on its beneficial effects in consumption.[35] Influenced by their statements, Beverley Robinson instituted its systematic use in his hospital and private practice in this city as early as 1878, and valuable papers by him have appeared from time to time since on this subject.

In Germany a series of publications by Sommerbrodt, Fraentzel, v. Brunn, Guttmann, and others, confirmatory of the results obtained by Bouchard and Gimbert, appeared in 1887 and 1888. The literature of the subject at the present time is very voluminous, and it may be said to be exceptionally favorable to the value of creasote in the treatment of pulmonary phthisis.

Varied opinions are held in regard to its mode of action, its most efficient dosage, and the best method of administration. The determination of these several points is of scientific interest as well as of practical import.

The efficacy of creasote in hindering or arresting fermentative processes in the digestive tract, so frequently present in phthisical patients, and thereby promoting appetite, digestion, and nutrition, is very generally admitted. Its ability to favorably affect appetite and to increase the digestive secretions, when given by the mouth, by locally stimulating the gastric and intestinal nerve-filaments, is also very probable. Through the promotion of a better nutrition, the beneficial effects claimed for creasote, in stimulating the resolution and absorption of the secondary inflammatory exudations in tuberculous lungs, may be explained. By its local action, antiseptic and stimulating, especially when given in the form of inhalations, a favorable influence upon the simple catarrhal processes so commonly present, is conceivable and probable. In turning our attention to any *specific* action which creasote may exercise upon the pathogenic cause of tuberculosis and its specific lesions, the results of experimental investigation properly should be considered.

Guttmann[36], as the result of test-tube experiments, which he claimed demonstrated the power of creasote, in solution of 1 to 4,000, to greatly inhibit the growth of tubercle bacilli, and in solutions of 1 to 2,000 to completely devitalize them, was led to believe that a similar specific action could be effected in the human body by the administration of sufficiently large doses of the drug. One gramme of creasote, according to his calculations, present in the circulation would suffice for this purpose. The experimental investigations very kindly undertaken for me by Dr. John Ely in the Pathological Laboratory of the College of Physicians and Surgeons, and which will be given in detail later, confirm the correctness of Guttmann's observations on the germicidal power of creasote.

Granting therefore the germicidal action of creasote *outside* of the human body, and also the possibility of administering it without injurious effects in daily doses larger than those demanded by Guttmann's hypothesis, a seemingly fatal objection to the theory of the exercise of a germicidal action in the economy, is found in very recent investigations which indicate that creasote enters at once in the blood into chemical combinations with certain contained albuminoids, combinations which are *without specific germicidal influence.* Moreover, it has been wisely said that "man is not a test-tube," and no fact appears to be more clearly proven than that the germicidal action of a drug outside of the body affords little basis for correct conclusions of its therapeutic value. Experiments on animals are necessary to determine these points.

In pursuance of this idea, numerous investigators have attempted to test the anti-bacillary power as well as other effects of creasote in tuberculosis by the treatment of animals with large doses of this drug both before and after the production of experimental tuberculous disease. I shall refer only to the very interesting experiments of Trudeau,[37] and Cornet.[38]

In Trudeau's experiments four rabbits were inoculated in the anterior chamber of the eye and in the right chest with a similar amount of pure cultures of tubercle bacilli suspended in water. Two of the rabbits were kept as "controls." Two were treated every other day with subcutaneous injections of five cubic centimetres of a ten per cent. solution of pure creasote in almond-oil. The course of the eye tuberculosis in the test-animals was daily compared with that in the "controls," and was seen to be entirely uninfluenced by the treatment. Tubercles became visible in the iris from the twelfth to the thirteenth day in both sets of animals. Iritis, cloudiness of the cornea, and general secondary inflammatory changes were noted in all the rabbits from the eighteenth to the twenty-first day, and the sight was soon lost. All were killed two months after inoculation, and the lungs of both the test and the control animals presented the lesions of advanced tuberculosis.

Cornet's experiments were as follows: Seven strong guinea-pigs were treated with creasote, introduced into the stomach by means of a tube, in doses equivalent for the body weight of a man to rather more than two grammes daily, for a period varying from one to two months. At the expiration of this interval they with four control-animals were either inoculated with or were compelled to inhale finely atomized pure cultures of tubercle bacilli, the creasote treatment being continued in the test-animals. A single test guinea-pig died of pneumonia ten days after inoculation. The remaining six died respectively thirty, thirty-two, thirty-three, forty-three,

seventy-seven, and eighty-four days after infection. Two of the control-animals were killed on the thirty-second and forty-third day after infection; the two remaining died on the sixty-first and eighty-fourth day after inoculation. All the animals, both test and control, presented the characteristic lesions of tuberculosis, and very little if any appreciable difference in the appearance, the degree, or the distribution of these could be detected in the two sets.

Experimental investigations, therefore, show in the most positive manner that creasote, administered even in heroic doses, is incapable either of preventing the development of experimental tuberculosis or of arresting its progress.

The theory of Bouchard, Ginbert, Jaccoud, and others, that creasote promotes connective-tissue growth, by means of which recovery in tuberculous disease is favored, also is not borne out by experimental studies in animals.

The explanation of any favorable influence of creasote on sclerotic processes which *clinical* observation may indicate, should seemingly be sought in the improved nutrition which obtains through its use rather than by the exercise of any specific action.

Guaiacol, obtained by fractional distillation of beech wood-tar creasote, and constituting sixty to ninety per cent. of the latter, was suggested by Sahli,[39] as early as 1887, as a substitute for creasote in the treatment of tuberculous disease. It represents the active principle of creasote, and may be substituted appropriately for it. As prepared in the various laboratories, it probably is not freed from all impurities.

Owing to this fact, very lately Seifert and Hoelscher[40] have proposed the use of the carbonate of guaiacol. Carbonate of guaiacol possesses the advantages over creasote and guaiacol of being a simple, definite, and crystalline substance which can be obtained chemically pure. It is a neutral salt, and is tasteless as well as odorless. It does not produce digestive disturbances, it is indifferent to the gastric secretion, and decomposes in the intestine into guaiacol and carbonic acid.

Many of the above characteristics of this salt have been demonstrated in its use in St. Luke's Hospital. Seifert and Hoelscher, as the result of experimental studies with guaiacol carbonate, have advanced a new and interesting theory of the mode of action of the creasote preparations in tuberculous disease. The basis of their theory apparently rests on the fact that experiments on dogs show that creasote and guaiacol do not circulate in a free state in the blood, and that they are eliminated by the kidneys in the form of the salts of ethyl sulphuric acid (aetherschwefelsäure). They argue that during absorption, the active principle of creasote allies itself with the albuminoids in the blood, and specifically through the agency of the sulphur contained in the albumin molecule. The blood of tuberculous patients contains in addition to normal albumin other albuminoid substances arising from the disease process, *e.g.*, the products of the tubercle bacillus. These substances constitute unstable combinations, prone to cause or undergo chemical processes, which act poisonously. The toxic albuminoids engendered by the disease are chiefly responsible for the fever, night-sweats, etc. The guaiacol, by allying itself with them, renders them stable and therefore non-toxic. The chemical combinations effected by the guaiacol are *without germicidal influence*, and the favorable results obtained through the use of the creasote preparations in tuberculous disease, therefore should be regarded as due in a large measure to their influence in assisting in the elimination of the toxic products of the specific disease process.

Seifert's and Hoelscher's theory in no respect militates against other favorable influences which have been ascribed to the creasote preparations, such as the probable direct stimulation of the appetite, and thereby improved nutrition, etc. The observations thus far made in St. Luke's Hospital in the use of guaiacol carbonate, lead me to believe that it may be substituted very favorably for both creasote and guaiacol.

Investigations in St. Luke's Hospital, with Modified Tuberculin, Creasote, Guaiacol, and Carbonate of Guaiacol.—During the past winter sixty-five cases of pulmonary tuberculosis have been under my care continuously in the wards of St. Luke's Hospital. Many of these were cases of very advanced disease, without the possibility of recovery, and the treatment consisted merely in attempts to ameliorate the most distressing symptoms. Nineteen of the remaining cases were selected for treatment, respectively, with Hunter's modifications of Koch's tuberculin, with subcutaneous injections of guaiacol, and with creasote by the mouth. It was my desire not so much to test the comparative merits of different methods of treatment, as to corroborate, or otherwise, Cheyne's and Hunter's observations, and to determine both the practicability of employing a very large daily dosage of creasote and any advantages this method might possess over its use in smaller quantities. Seven cases of well marked tuberculosis are embraced in the group treated with Hunter's modified tuberculin. The details of the histories of these patients, and the results of treatment, are given in a tabulated form for convenience in study. It will be seen that three cases have been under treatment for three months, the remainder for nearly two months. Physical examination in two of the former cases indicates no appreciable change in the pulmonary lesions during treatment. In the third case, the improvement in the signs of disease, and in all other respects, has been most marked. Physical examination indicates not only the dryness of the cavity, but also its very evident contraction, as well as a diminution in the degree of the contiguous disease process. In the four remaining cases, there has been no improvement in one; in one, improvement has been marked; in one, it has been distinct, though less marked; and in one case an arrest of the disease, at least temporarily, has occurred. It will be observed in a study of the tabulated report, that by improvement is meant a marked diminution in the physical signs of disease.

Case VII. is certainly an example of arrested phthisis. This is of such rare occurrence in pulmonary tuberculosis of this degree, under conditions which commonly prevail in large city hospitals, as to be particularly noteworthy. A very distinct impression has been made on my mind, in observing from day to day the cases treated with modified tuberculin, that its stimulation of the nutritive processes is not so marked as its effect upon the specific lesions. Creasote, on the other hand, has seemed to me to possess the former quality in a greater degree. To meet possible criticism, all the above cases have received no other treatment than tuberculin, beyond the administration of cod-liver oil, and, from time to time, various ferruginous preparations.

The exact mode of preparation of the modifications used is given in a note.* The rule of dosage was to give 0.002 gm. for the initial inoculation, and to increase by 0.002 gm. daily. The rule also was made not to increase the dose if any elevation of temperature followed inoculation. With the modifications B. and C.B., appreciable

*Method of preparation of Hunter's modifications: Modification "B.," 1 c.c. of tuberculin, 5 c.c. distilled water. saturation with preferably large crystals of ammonium sulphate for twenty-four hours in the cold, the precipitate filtered off and freed so far as possible from any crystals of ammonium sulphate, placed in dyalizer, and dyalized just so long and no longer in running water, and then in distilled water, until all trace of ammonium sulphate has disappeared. Crystals of thymol added to the solution to prevent any putrefactive change; the solution then made up to such bulk that 10 c.c. shall correspond to each c.c. of tuberculin employed. (Title, B., ten per cent.)

Modification "C.B.," 2 c.c. of tuberculin dropped into 20 c.c. absolute alcohol; heavy precipitate filtered off in a quarter of an hour; filtrate evaporated over water-bath at temperature preferably not exceeding 40 C., and just sufficiently long to drive off all alcohol; residue taken up in 12 c.c distilled water; placed in dyalizer and dyalized for two hours in running stream of water. Quantity made up to 20 c.c., including 2 c c. of pure glycerine used for preservative purposes. A few crystals of thymol added. (Title, C.B., ten per cent.)

The above modifications were prepared for me in the Chemical Laboratory of the College of Physicians and Surgeons.

reactions did not occur in the above cases. In a single case not reported in the following table, treated with C.B., a rise of temperature followed an inoculation of 0.008 gm., and an acute catarrhal process was developed at the apex of one lung. At the expiration of the tenth day, defervescence occurred and no further ill effect has followed. For this reason modification B. has been used in all other cases but one. Trudeau has also adopted, I believe, modification B. as the preferable one. Through the absence of all reaction and discomfort attending the use of B., all patients treated with it have been able to be continuously about the wards and out-of-doors. Only the usual very inexact method for determining the number of bacilli in the sputum was used. Repeated examinations were made, and they were found in all.

The number of cases treated with modified tuberculin, while much too small to permit the expression of a positive opinion of its power to exercise a specific remedial action, is large enough to indicate in the strongest manner the desirability of continued investigations of its *apparently specifically beneficial effects.*

My desire to test the practicability of employing a very large daily dosage of the creasote preparations, and to determine, if possible, any advantage which this method might possess over their use in smaller quantities, has been fulfilled in a measure. Several of the patients selected for this treatment presented in a well-marked degree many of the symptoms, viz., hectic, sweats, etc., attributed to the toxic influence of the *products* of the bacillus, and were therefore well adapted to test the effect of creasote upon such manifestations. It will be seen in the tabulated record that seven cases have been treated with subcutaneous injections of guaiacol, rapidly pushed to a daily dosage of one gramme, and five cases with creasote by the mouth, also rapidly increased to six grammes daily.

In four of the former cases there has been little, if any, change in the physical signs of disease. In one of these, however, the general condition has greatly improved and there has been a gain in weight of eight pounds. In one, the weight has decreased by one and three-quarter pounds; in one, there has been a loss of four pounds; in one, the weight has remained stationary.

In two of these cases the daily sputum has slightly increased in amount; in two, it has slightly diminished. In the three remaining cases, there has been a progressive increase of the pulmonary lesions. No influence upon hectic when present has been observed. Night-sweats, however, have been affected favorably. In a single case suffering from chronic diffuse nephritis (confirmed by autopsy) a marked increase in the albuminuria was observed when a daily dosage of one gramme was reached.

The treatment was then discontinued and the albuminuria gradually diminished. In no other case, treated either with guaiacol or creasote, has any trace of albumin appeared in the urine, in examinations made every other day. In a single case, when the maximum dose of guaiacol was reached, the urine became dark in color and very similar in appearance to urine containing carbolic acid products

Dr. Ely's report on the enumeration of tubercle bacilli in the daily sputum of several patients treated with guaiacol contains observations of interest and practical import. It indicates the possibility of incorrect conclusions even from the best method at our command for this purpose; also the absence of bacilli, from time to time, in the sputum of patients suffering from grave pulmonary tuberculosis.

In Cases II. and IV., where there has been no apparent increase in the lesions, and the general condition has remained stationary, the number of bacilli has greatly diminished.

In Case VII., in which the area of disease has slightly increased, and the general condition has deteriorated, the bacilli have greatly increased in number.

In the cases treated with creasote there has been no appreciable difference in the physical signs of disease up to the present date, in two. In these there has been a gain of one pound and a loss of three pounds, respectively.

In the three remaining cases there has been a progressive increase of the lesions. The effect of a very large daily dosage of creasote upon hectic and sweats, corresponds to that noted in the use of guaiacol. Entire tolerance of six grammes (over one and one-half drachms) of creasote was exhibited by three of the five patients. One complained of slight gastric discomfort when a daily dosage of five grammes was reached, and one patient who had suffered from occasional nausea and vomiting previous to the administration of creasote, believed that these symptoms were increased by it. Several other patients at present in my wards are taking four to six grammes of guaiacol daily, without gastric or intestinal discomfort.

Carbonate of guaiacol has been used, so far as its supply permitted, and aside from the advantage of being tasteless and odorless, and only being decomposed by the intestinal secretions, it has seemed to me to very positively stimulate appetite.

The clinical conclusions which I have formed from a careful study of these cases are: That both creasote and guaiacol in certain forms can be given in very large doses with entire tolerance and without injurious effects; that such dosage apparently possesses no advantages over a much smaller one, and that it has no greater effect upon hectic and night-sweats; that subcutaneous injections of the drug possess no advantages over administration by the mouth; that whatever beneficial influence creasote may exert in pulmonary tuberculosis can be effected with a comparatively small dosage and that favorable results can be expected only by its continuous and prolonged employment.

Dr. Ely's reports of his investigations on the germicidal action of creasote on the tubercle bacillus outside of the human body, and on the enumeration of bacilli in the daily sputum of patients, treated with guaiacol, are appended.

For valuable assistance rendered me in my investigations, I desire to express my thanks to Drs. John Ely and Robert J. Devlin and to the gentlemen of the House Staff of St. Luke's Hospital, Drs. Hollis, Rogers, Bunce, and Tuttle.*

Dr. Ely's Report on the Germicidal Action of Creasote Outside of the Human Body.—Shortly after the revival of interest in creasote as a therapeutic agent in tuberculosis the question arose as to the manner in which its beneficial effect was produced. Its general preservative and anti-fermentative properties had long been recognized and made use of in the arts, and the possibility of a similar inhibiting or germicidal action upon the specific germs of tuberculosis at once suggested itself. With a view to the solution of this problem Guttmann undertook a more definite determination of its germicidal action.

In his experiments nutrient gelatine was impregnated with creasote in proportions varying from 1 to 500, to 1 to 8,000. Into this seventeen different species of bacteria, thirteen of them pathogenic, were inoculated, at the same time similarly inoculated tubes of ordinary nutrient gelatine serving as controls. The inhibiting action of the creasote was found to vary considerably with the different species, but in general a creasote content of 1 to 2,000 was found sufficient to prevent growth. The plan of experiment received slight modification in the case of the tubercle bacillus, blood-serum being used as the nutrient medium, and the cultures, after inoculation, being placed in the thermostat at a temperature of 37° C. After several weeks, examination showed a meagre growth in the tubes

* Creasote was administered without exception, in the form of what are known as the "Enteric Pills" of a well-known manufacturer. The nature of their protecting envelope I am ignorant of. Personal investigation of the effect of an artificial gastric juice upon the envelope showed that it was partially dissolved after one hour.

which had contained creasote in the proportion of 1 to 16,000; none in the others.

Since these experiments of Guttmann, so far as I am aware, stand quite alone, it has been thought avisable to repeat them in so far as they relate to the tubercle bacillus, but in slightly modified form. Instead of blood-serum, glycerine-bouillon and glycerine-agar have been used as nutrient media, both of which have shown themselves particularly well adapted to the growth of the tubercle bacillus; and an aqueous solution of guaiacol, the principal ingredient of creasote, has been substituted for the alcoholic solution of creasote employed by Gutt-

Treatment with Subcutaneous Injections of Hunter's Modified Tuberculin.

No. of case, sex, and age.	Patient's history and physical examination at beginning of treatment.	Patient's weight, daily sputum, inoculation used, date when begun.	Duration of treatment, weight, and sputum, to date.	Physical examination at present date.
I. Male, 42 years.	Profuse hæmoptysis 5 years ago; pleurisy 3 years ago; night-sweats and cough since, with loss of 40 lbs. in weight. Physical signs: Slight retraction beneath right clavicle. Evidence of cavity in first interspace; also very abundant largish moist râles at this site. Abundant subcrepitation from first space to base. Posteriorly, same side, abundant subcrepitation, with larger râles, over supraspinous fossa. Abundant subcrepitation over whole of scapular region. Patient apyretic.	Jan. 13, 1892, weight, 134 lbs. Sputum, ℥iv., daily average. "B." 0.002 gm., to increase by 0.002 gm. daily.	April 25, 1892, weight, 141¼ lbs. Sputum, ℥j¼, daily average. "B." 0.198 gm., to increase by 0.002 gm. daily.	April 25th—Physical signs: Marked retraction, directly beneath right clavicle. Signs of cavity distinctly less marked, and it is apparently nearly dry. Scanty subcrepitation in second space; below this point, no adventitious sounds present. Posteriorly, adventitious sounds absent over supra-spinous fossa and marked diminution of subcrepitation over scapular region. Patient apyretic; no night-sweats. Very marked improvement.
II. Male, 47 years.	History of 18 months; sputum occasionally tinged with blood; absence of night-sweats. Physical signs: Consolidation without crepitation over first and second right-spaces and over supraspinous fossa. Posteriorly, subcrepitation over interscapular region. Left lung, feeble respiratory murmur, with scanty subcrepitation beneath clavicle and over supraspinous fossa. Evening temperature occasionally 100° F.	Jan. 14, 1892, weight, 122 lbs. Sputum, ℥j., daily average. "C.B." 0.002 gm., to increase by 0.002 gm. daily.	April 25, 1892, weight, 125 lbs. Sputum, ℥j., daily average. "C.B." 0.092 gm., to increase by 0.002 gm. daily.	April 25th.—Physical signs: Practically the same as on first examination. Evening temperature occasionally 100° F. Condition stationary.
III. Female, 32 years.	History of cough and occasional hæmorrhage for past 2 years. Physical signs: Dulness, with rather abundant subcrepitation in first right interspace; scanty subcrepitation in second space. Dulness, with moderate subcrepitation posteriorly, over supraspinous fossa and scapular region. Patient apyretic.	Jan. 17, 1892, weight, 105 lbs. Sputum, ℥j., daily average, "C.B." 0.002 gm., to increase by 0.002 gm. daily.	April 21, 1892, weight, 107 lbs. Sputum, ℥j¼, daily average. "C.B." 0.176 gm., to increase by 0.002 gm. daily.	April 21st.—Physical signs: Dulness with scanty subcrepitation in first space; absent in second. Dulness with scanty subcrepitation over supra-spinous fossa and scapular region. Little appreciable difference from first examination. Patient apyretic. Condition stationary.
IV. Male, 50 years.	Cough for past year; gradual loss of flesh and strength. Physical signs: Impairment of resonance over upper half of left chest, anteriorly, with fairly abundant subcrepitation over same. Posteriorly, impairment of resonance over upper half of left chest, with abundant subcrepitation over supraspinous fossa and scanty in areas over scapular region. Patient apyretic.	March 2, 1892, weight, 144 lbs. Sputum, ℥j., daily average. "B." 0.002 gm., to increase by 0.002 gm. daily.	April 25, 1892, weight, 148¼ lbs. Sputum, less than ℥j, daily average. "B." 0.110 gm., to increase by 0.002 gm. daily.	April 25th.—Physical signs: Little appreciable difference in resonance over upper half of left chest since first examination. Crepitation has almost wholly disappeared anteriorly, and is practically absent posteriorly. Patient apyretic. Marked improvement.
V. Male, 32 years.	Hæmorrhage 5 years ago and another 3 years ago, very profuse. Since latter, unable to work, and has lost 40 lbs. in weight. Treated with tuberculin in Presbyterian Hospital a year ago, and apparently improved temporarily. Physical signs: Diffuse infiltration upper lobes of both lungs, with abundant subcrepitation at apices and scantier over remainder of affected regions. Most marked, right apex; occasional night-sweats. Patient apyretic.	March 2, 1892, weight, 123 lbs. Sputum, ℥j., daily average. "B." 0.002 gm., to increase by 0.002 gm. daily.	April 25, 1892, weight, 119 lbs. Sputum, ℥j., daily average. "B." 0.078 gm., to increase by 0.002 gm. daily.	April 25th.—Physical signs: No appreciable difference from first examination. Occasional night-sweats. Patient apyretic. Condition stationary.
VI. Male, 33 years.	Cough for 3 months; no hæmoptysis, no night-sweats. Physical signs: Impairment of resonance, with loss of vesicular respiration over right infraclavicular region. Abundant subcrepitation in second and third spaces. Similar signs over whole left chest anteriorly; in less degree also over left supraspinous fossa and scapular region. Slight pyrexia; evening temperature, 100–100.2° F.	March 3, 1892, treatment begun March 21st, weight, 132 lbs. Sputum, ℥ss., daily average. "B." 0.002 gm., to increase by 0.002 gm. daily.	April 25, 1892, weight, 135 lbs. Sputum none, "B." 0.100 gm., to increase by 0.002 gm. daily.	April 25th.—No appreciable difference in impairment of resonance over affected regions. Subcrepitation scanty at present over right chest, and absent over supraspinous fossa and scapular region, left. Anteriorly, same lung, no appreciable difference from first examination. Patient apyretic since March 18th. Improvement.
VII. Male, 41 years.	Cough for 6 months; no hæmoptysis, no night-sweats; gradual loss of flesh. Physical signs: Impairment of resonance, sligtly prolonged and high-pitched expiration, with abundant subcrepitation in first two spaces, left; scanty, fine crepitation below. Same signs over supraspinous fossa as beneath clavicle; over upper half scapular region, scanty crepitation after cough. Slight pyrexia; occasional evening temperature, 100° F.	March 3, 1892, weight, 135 lbs. Sputum, ℥ss., daily average. "B." 0.002 gm., to increase by 0.002 gm. daily.	April 18, 1892, weight, 135 lbs. Sputum, none. Discharged, through desire and ability to go to work.	April 25th.—Impairment of resonance over first two spaces. Respiration feeble, but expiration not prolonged or increased in pitch. Entire absence of all adventitious sounds over whole of left chest, anteriorly and posteriorly. Patient continuously apyretic since March 18th. Disease at present arrested.

Treatment with Subcutaneous Injections of Guaiacol Rapidly Increased.

No. of case, sex, and age.	Patient's history and physical examination at beginning of treatment.	Patient's weight, daily average of sputum (℥) when guaiacol ♏ j., increasing ♏ j. daily, was begun; date.	Duration of treatment, weight, and sputum, to date.	Physical examination at present date.
I. Female, 17 years.	Cough for 10 months; progressive loss of flesh and strength; no hæmoptysis; moderate night-sweats. Physical signs: Excavation at right apex anteriorly, with consolidation below; posteriorly, same lung, consolidation with numerous large râles and abundant subcrepitation over whole of scapular region, below fine crepitation. Left, anteriorly, moderate consolidation at apex, without crepitation. Advanced laryngeal disease. Marked hectic; evening temperature, 102–103° F.	Weight, Feb. 27, 1892, 70¼ lbs. Average daily sputum, ℥ ss.–℥ j. Guaiacol, 0.05 gm. daily, to increase 0.05 gm. daily to 1 gm.	March 20, 1892, 71 lbs. Average daily sputum, ℥ j.–℥ ij. Guaiacol, 1 gm. reached to-day; discontinued.	March 20th.—Physical signs: Progressive increase of lesions; night-sweats. Marked hectic; evening temperature, 102–103° F.
II. Female, 30 years.	Hæmoptysis 3 years ago; present history of cough, 3 months; progressive loss of flesh and strength; no night-sweats. Physical signs: Dulness, prolonged and high-pitched expiration over left infraclavicular region, with very abundant subcrepitation. Same signs posteriorly over upper half of left lung. Right, similar signs, less in degree, anteriorly and posteriorly over upper half. Slight pyrexia; evening temperature, 100° F.	Weight, Feb. 27, 1892, 91¾ lbs. Average daily sputum, ℥ j. Guaiacol, 0.05 gm. daily, to increase 0.05 gm. daily to 1 gm.	April 25, 1892, 91⅛ lbs. Average daily sputum, ℥ j.–℥ ij. Guaiacol, 1 gm. daily for 37 days.	April 25th.—Physical signs: Little appreciable difference from first examination, except subcrepitation now heard over whole left lung posteriorly. No night-sweats. Slight evening temperature.
III. Female, 24 years.	Pleurisy, right side, 3 years ago. Empyema same side 1 year ago, exsection of rib; cough and frequent hæmoptysis since; night-sweats. Physical signs: Large antrum in first right space, nearly dry. Moderate consolidation, without crepitation, in second space. Consolidation, apex, same lung, posteriorly, without crepitation. Patient apyretic.	Weight, Feb. 27, 1892, 135 lbs. Average daily sputum ℥ ij.–℥ ss. Guaiacol, 0.05 gm. daily, to increase 0.05 gm. daily to 1 gm.	April 25, 1892, 141 lbs. Average daily sputum, 0–℥ ss. Guaiacol, 1 gm. daily for 37 days.	April 25th.—Physical signs: Anteriorly, no appreciable difference from first examination; posteriorly, moderate subcrepitation at apex and over upper half of scapular region. Patient apyretic; occasional night-sweats. Marked improvement in general condition.
IV. Female, 44 years.	Pneumonia, 3 years ago; cough since; no hæmoptysis, no night-sweats at present. Physical signs: Consolidation, with fairly abundant subcrepitation at both apices. Subcrepitation also present over upper half right scapular and upper third left scapular regions. Slight pyrexia; occasional evening temperature, 100.2° F.	Weight, Feb. 28, 1892, 91¾ lbs. Average daily sputum, ℥ ss.–℥ j. Guaiacol, 0.05 gm. daily, to increase 0.05 gm. daily to 1 gm.	April 25, 1892, 90 lbs. Average daily sputum, ℥ ss. Guaiacol, 1 gm. daily for 37 days.	April 25th.—Physical signs: No appreciable difference from first examination; no night-sweats. Occasional evening temperature, 100.2–100.3° F.
V. Female, 32 years.	Grippe a year ago; cough since; no hæmoptysis; profuse night-sweats. Physical signs: Areas of infiltration throughout upper lobe, right lung, with abundant subcrepitation. Areas of infiltration upper lobe, left lung, with abundant subcrepitation and evidence of beginning excavation at apex. Hectic; evening temperature, 101–102° F.	Feb. 28, 1892, 72 lbs. Sputum, ℥ ij.–iv., daily average. Guaiacol, 0.05 gm. daily, increasing 0.05 gm. daily. March 12, 1892, 0.60 gm. Weight, 72 lbs.; sputum, ℥ ij.–iv.	March 15, 1892, guaiacol by mouth, ♏ x.; ♏ iv. daily average. March 24th, ♏ iij. daily in pill, not increasing. April 1, 1892, weight, 64 lbs. April 6, 1892, sputum, ℥ iv.–v.	April 1st.—Physical signs: Progressive increase of lesions; moderate sweats. Treatment apparently some effect on sweats, none on fever. Died April 7, 1892.
VI. Female, 46 years.	History of 10 months; a single hæmoptysis; night-sweats almost continuously. Physical signs: Large antrum, apex left lung, with impaired resonance and abundant subcrepitation to base anteriorly. Posteriorly, areas of subcrepitation to base. Beginning disease at right apex. Hectic; evening temperature, 101–102° F.	Feb. 28, 1892, 95⅛ lbs. Sputum, ℥ j.–ij., daily average. Guaiacol, 0.05 gm. daily, increasing 0.05 gm. daily. March 9, 1892, 0.45 gm. Weight, 93¾ lbs.; sputum, ℥ ij.–iij.	Treatment discontinued before maximum dose reached; no further treatment. March 24, 1892, weight, 96¼ lbs. March 31, sputum, ℥ ss.–℥ ij.	March 10th.—Progressive increase of lesions. Treatment apparently some effect on night-sweats, none on fever. Died April 1, 1892.
VII. Male, 31 years.	Typical history since last November; several hæmoptyses; no night-sweats. Physical signs: Feeble respiratory murmur, with abundant subcrepitation over whole of right lung, anteriorly, and upper half of scapular region. Similar signs in slightly less degree over upper lobe left lung, anteriorly and posteriorly. Pyrexia; evening temperature, 101–102° F.	March 2, 1892, 92 lbs. Sputum, ℥ vij.–xjss. daily average. Guaiacol, 0.05 gm. daily, increasing 0.05 gm. daily, March 21, 1892, 1 gm. for 2 days. Weight, 88⅛ lbs., sputum, ℥ vij.	March 22, 1891, guaiacol carbonate, gr. vj. daily by mouth. April 12, 1892, weight, 86¼ lbs. Sputum, ℥ iij.; treatment stopped. April 19, 1892, guaiacol pill, ♏ vj. daily, increasing, ♏ iij. April 25, ♏ xxvij.; weight, 88 lbs.; sputum, ℥ iij.	April 25th.—Physical signs: Very similar to those of first examination, except subcrepitation heard over whole of left lung anteriorly and posteriorly; no night-sweats; pyrexia. Evening temperature, 100–101° F. General condition worse.

mann in the preparation of his media.* These media were impregnated with guaiacol in the proportions of 1 to 1,000, 1 to 2,000, 1 to 3,000, and 1 to 4,000, and into them were introduced particles of a rapidly-growing culture of the tubercle bacillus, other media, not containing guaiacol, being at the same time inoculated as controls. All were then sealed and placed in the thermostat at 37° C. At the end of seven weeks they were examined and the records tabulated below noted. It may be permissible to state here that every slightest indication of growth was carefully searched for and that no record is made except where all the conditions necessary to the growth of the tubercle bacilli were observed, so that the

* Notwithstanding Guttmann's statement to the contrary, it was thought possible that the alcohol necessary for the solution of the creasote might have a disturbing influence upon the experiment.

entry "No growth" in the tables below means literally what it says.

SERIES A.—*Glycerine-Bouillon. Inoculated March* 11, 1892; *Examined April* 29, 1892.

Control, four flasks.	1 to 1,000, two flasks.	1 to 2,000, two flasks.	1 to 3,000, three flasks.	1 to 4,000, two flasks.
1. Moderate growth, not spreading much, but heaping.	1. No growth.	1. No growth.	1. No growth.	1. Apparently slight heaping up, thought to indicate very slow growth.
2. Luxuriant growth, overgrowing whole surface of the bouillon.	2. No growth.	2. No growth.	2. No growth.	2. Slight heaping, though somewhat questionable.
3. Luxuriant growth, overgrowing whole surface of the bouillon.			3. No growth.	
4. Moderate growth, heaping.				

SERIES B.—*Glycerine Agar.—Inoculated March* 11, 1892; *Examined April* 29, 1892.

Control, four tubes.	1 to 1,000, five tubes.	1 to 2,000, five tubes.	1 to 3,000, five tubes.	1 to 4,000, five tubes.
1. Very luxuriant growth, heaping and spreading.	1. No growth.	1. No growth.	1. No growth.	1. No growth.
2. Abundant growth, heaping and spreading.	2. No growth.	2. No growth.	2. No growth.	2. Very slight heaping and cloudiness at edges, as if growing sluggishly.
3. Moderate growth.	3. No growth.	3. No growth.	3. No growth.	3. Abundant growth.
4. Moderate growth.	4. No growth.	4. No growth.	4. No growth.	4. Very slight heaping; no apparent spreading.
	5. No growth.	5. No growth.	5. No growth.	5. Slight heaping and cloudiness at edges as if slowly spreading.

Results of the Determination of the Actual Number of Tubercle Bacilli in Twenty-four Hours' Sputum, by Nuttall's Method.

Case.	Date.	Quantity of sputum in twenty-four hours.	Number of tubercle bacilli in twenty-four hours' sputum.
I.	Feb. 24, 1892...	9 fluidrachms.	227,684,401.
II.	Feb. 24, 1892...	12 fluidrachms.	7,798,791.
	March 23, 1892..	9 fluidrachms.	4,189,915.
	April 6, 1892...	1 fluidounce...	1,946,657.
	April 29, 1892..	3 fluidrachms..	380,828.
III.	Feb. 22, 1892...	1 fluidrachm ..	579,792.
	March 23, 1892..	3 fluidrachms..	About one hundred fields carefully gone over without finding any bacillus. Whole drop then examined systematically and still none found. Stain good.
	April 23, 1892..	4 fluidrachms..	6,858,090.
IV.	Feb. 26, 1892...	6 drachms....	7,707,033.
	March 23, 1892..	6 drachms....	274,246.
	April 6. 1892....	4 drachms....	202,149.
	April 29, 1892..	2 drachms....	270,228.
VII.	March 17, 1892..	.....	One hundred fields carefully gone over; no bacillus. Whole drop; no bacillus. Stain good. A second cover of same examined with same result.
	March 28, 1892..	10 ounces 6 drachms	One hundred fields searched as above no bacillus. Duplicate cover gives same result.
	April 6, 1892...	11 ounces 4 drachms	1,307,395.
	April 29, 1892...	11 ounces.....	2,915,976.

Dr. Ely's Report on the Enumeration of Bacilli in the Daily Sputum of Patients Treated with Subcutaneous Injections of Guaiacol.—While fully recognizing the illusive nature of conclusions as to the value of therapeutic agents based upon periodical determinations of the number of tubercle bacilli in the sputum, it has been thought desirable to make such determinations in a number of the cases treated with creasote and guaiacol.

The method employed for this purpose has been that recommended by Nuttall, the details of which are to be found in the *Bulletin of the Johns Hopkins Hospital*, vol. ii., No. 13, May to June, 1891.

Although this method is unquestionably the most accurate thus far proposed, it is nevertheless subject to great error, and the results are liable to be particularly misleading in cases in which the amount of expectoration is large and the number of bacilli small. Case VII., tabulated above, may be referred to as an example. About eleven ounces of sputum were eliminated daily. This was so viscid that its disintegration necessitated the addition of considerably more than an equal bulk of potash and water, so that the total amount after dilution came to be 700 c.c. Since the dropper used delivers about one hundred drops to the cubic centimetre, the content of each drop (in this particular case), must be multiplied by seventy thousand in estimating the total number of bacilli eliminated in twenty-four hours, and of course, any error in the determination of the number of bacilli to the drop is similarly multiplied. And when there are only a few bacilli to each drop, all may be overlooked in counting fifty fields, or, on the other hand, a disproportionate number may chance to be seen. Thus in Case VII., while the majority of the fields contained no bacilli, one had three. A discrepancy of one hundred thousand or so is a matter of small import when many millions of bacilli are present, but may be very misleading when there are only a few hundred thousand.

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Original Articles.

THE INSANE IN EGYPT.

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It is well known that the population of the State of New York is in the neighborhood of six million, and that it has some sixteen thousand insane under public care. New York City and Brooklyn together, with two million inhabitants, have asylums which accommodate at present over seven thousand three hundred insane. These statistics are given as preliminary to a description of the conditions in Egypt, where I have been spending the winter. When we turn from a contemplation of the foregoing facts in reference to one of the newest countries in the world to Egypt, which if not the oldest, can yet boast of a civilization sixty centuries ago, we are struck by a remarkable difference. Egypt too has six million of inhabitants, and, according to the usual ratio of cases of insanity to population, she should have some twenty thousand insane, or even if she were a much favored nation in this respect, there should still be ten thousand cases within her borders. But the fact before us is that the whole country possesses but one lunatic asylum, located at Cairo, and its daily aggregate of patients rarely exceeds two hundred and fifty. At my visits in December, 1891, and March, 1892, there were two hundred and forty-eight.

It is very difficult to ascertain the reasons for this extraordinary deficiency. It is true that the Koran teaches that the insane and particularly idiots are holy men, that their souls having been taken to heaven, their bodies are without mental guidance. Therefore the Mussulmans do not look upon the insane as sick and requiring medical supervision, but as the happy recipients of a direct blessing from heaven. This is quite different from the early Christian belief in possession by devils. Apoplexy is also regarded by Mohammedans as a visitation from God, and s not treated medically. It is also true that the Egyptians, unacquainted with hospitals, object to them, and prefer to care for their sick in their own homes or villages. While, therefore, it is not infrequent to meet with idiots and wildly insane people in the streets of Cairo and other cities and towns, and while I observed several at various times in places in Upper and Lower Egypt, still, taking all this into consideration, it would seem to be impossible to account for the extraordinarily small number of insane n the country on any other hypothesis than that the percentage of insane is vastly lower here than anywhere else n the world.

I made inquiries of native physicians at various points along the Nile, such as Benisooef, Minich, and the like, with populations varying from 10,000 to 30,000. They said they seldom or never saw insane people in their practice, since they were not considered patients. Of course if a man becomes dangerous or homicidal, which is extremely unusual, he is taken into custody by the civil authorities and sent to the Cairo asylum. Inquiries, too, in the villages gave me little additional information, although I would hear of the existence of imbeciles or mild types of insanity in some of these places. It is often the custom to provide them, when at all troublesome, with places to sleep in the desert near at hand and there feed them, a sort of colonization system for which the desert offers exceptional advantages. There is no one to annoy there, nothing to destroy or hurt one's self with, and one can be as noisy as one pleases with perfect immunity.

To return now to the asylum at Cairo, it is of comparatively recent origin. Although Egypt has thrice been the medical centre of the whole world (once in the Twelfth Dynasty, again in the time of Ptolemy Energetes, and lastly under the Arabian school), we do not seem to find evidence of the existence of an asylum for lunatics before about 1280 A.D., at which time the Mameluke Kalaoon founded that at Cairo. The patients at that time seem to have been well treated. Harmonious music was employed for the sleepless, and this seems to be a very early use of music as a therapeutic agent. Story-telling (a common custom among the Egyptians), dancing, and light comedy were features of the treatment. Subsequently the institution degenerated. Napoleon in 1800 made some improvements. Many of the patients were then in chains. In 1877 Dr. A. R. Urquhart visited them in an abandoned warehouse across the Nile from Cairo, and wrote a description of their condition in the *Journal of Mental Science* for April, 1879. The following are excerpts from his article:

"Amid all the wonders of Cairo, amid the mosques and the bazaars, amid the gayeties of the oriental Paris sprung up under the fostering care of the Khedive, amid the gigantic relics of that wondrous civilization of ancient Egypt, there is no more melancholy, degrading fact than their common madhouse. . . . Doré with pencil among the noisome alleys of London, Dickens with pen in the horrors of the Fleet, have made us familiar with miseries and loathsomeness that would be comfort and cleanliness to *Les Miserables* of Cairo. Sprawling on the uneven, hard-trodden floor of the courtyard, furiously treading its limited space, crouching in its filthy recesses, or surrounding us with entreaties and menaces, were some two hundred hopeless lunatics in various stages of nudity. The sun was beating down fiercely, and the stench of the place was almost unbearable."

He saw six or eight perfectly naked in one room whose walls were smeared with filth and steaming with urine; and one loaded down with chains.

Dr. Tuke made a somewhat similar report of a visit, in an article in the same journal of the same date.

In 1880 the warehouse on the Nile was given up and the asylum transferred to quarters which it now occupies on the edge of the desert two or three miles out of Cairo. The present building was once the apartment of the black slave-girls, being the remains of a royal palace which was burned in 1878. Here it was that Dr. F. M. Sandwith visited the lunatics in 1883, and was shocked at the state in which he found them. Filth, hunger, chains, nakedness, and the whip were met on every side. The following year Dr. Sandwith and a native pacha were made chiefs of the Sanitary Department of Egypt. Under Dr. Sandwith's care and attention, the asylum became transformed. He was their Pinel, striking off the chains of the poor creatures, and opening up a new era in their miserable lives. One chain was used to fasten the ankles to the floor, and others were used to chain the wrists to heavy staples in the wall near the floor. Thus the patient was obliged to keep a more or less recumbent position, and a bare board was provided for lying upon. There were no official visitors, and the chief doctor at the time was an Italian Jew without a diploma. There was no responsibility anywhere. Dr. Sandwith improved the severe system of the building, which was in a horrible state, struck off the chains of the patients, put in an intelligent young doctor with a Paris diploma, together with good male and female attendants, clerk, storekeeper, gardener, carpenter, matting-maker, and the like, organized *fêtes*, began gardens, which are now very pretty court-yards, gave them better-lighted and better-ventilated wards and new bath-rooms, and provided a better regimen and sufficient clothing. All of the reforms carried out were described in a paper in the *Journal of Mental Science* for January, 1889, by Dr. Sandwith. I had the pleasure of making two visits to the institution, the last time in the company of Dr. Sandwith. The first time I came unexpectedly. On both occasions I was received by Dr. Emin Bedr, who is in charge, with great cordiality, and shown everything good and bad about the asylum. Dr. Bedr is a Paris graduate and has two assistants, one a graduate from the Cairo Medical School and the other a student. Restraint is only rarely employed, and when needed consists of the long-sleeved camisole. There are two or three padded rooms, such as they have in the Bethlem Asylum in Lon-

don, which are occasionally of great service in the treatment of the insane. There is not so much work done by the inmates as might be were there more ambition on the part of the medical direction. All of the wards, beds, and patients' clothing were neat and clean, and the attendants, in their trim uniforms, seemed to be very kind and attentive to their charges. But the nature of the Egyptians is gentle and kindly, and they always treat their unfortunates well. They are only unkind through ignorance.

There is much that is interesting in the forms of insanity met with. One form that I had never seen in my experience in American asylums is that resulting from the use of cannabis indica. Of the two hundred and forty-eight patients sixty men and four or five women were insane from the excessive use of hasheesh. Acute cases which recover and are discharged are almost sure to return. The drug is almost always inhaled by smoking. Hasheesh has been in use in Egypt for over six hundred and fifty years, and although the Government has made strenuous efforts to suppress its importation, it still continues to be smuggled in. There exist in Cairo, unknown to the police, several hasheesh joints. I visited one of these one evening and had no difficulty in purchasing samples of hasheesh for inspection. There were two or three rooms full of men enjoying their pipes and chibouques. The drug is sold in square and diamond-shaped lozenges of a black extract, varying from two cents to ten cents a piece according to quality. The symptoms produced are disorder of the alimentary canal (indigestion and diarrhœa), increased appetite, dilatation of the pupils, drooping eyelids, anæmia, general debility, and delirium. The earliest mental symptom is a marked and increasing timidity, sometimes amounting to a *folie du doute*, or an agoraphobia. Very many cases result in chronic insanity, dementia, or death.

The use of wine and other intoxicating beverages is forbidden by the Koran, and the Egyptians are a very temperate people. Hence insanity from alcoholism is exceedingly uncommon. There were only two or three cases of alcoholic insanity in the asylum at the time of my visit.

Religion is often the cause of insanity, or if not the direct cause, often colors the delusions. One would expect that a religion which so commonly gives rise to extremes of fanaticism, to the orders to be seen in Cairo of Howling and Dancing Dervishes, to the desert pilgrimages to Mecca, to constant poring over the Koran and the like, would have a more than usually bad effect upon the mental balance. It is surely to the influence of the desert that we owe the appearance of so many false prophets. The desert has the peculiarity of developing thoughts in great luxuriance, even if nothing else grows there. If there is anything morbid in one's mind it will grow like an exotic there where there is nothing else to think about. There are a great many false prophets in the Cairo asylum. The Mahdi was another instance. Mahomet was one, and there have been others almost as famous if not as influential. It may be surmised that where polygamy exists as it does in Egypt, and where divorce can be effected at will by the husband, domestic unhappiness should be a frequent cause of insanity among the women.

I was astonished at the number of cases of nymphomania pointed out to me among the Egyptian women in the institution. A singular fact in connection with this is that a form of circumcision (clitoridectomy) is performed on every Egyptian woman as a religious rite during early life. It is not so long ago that some physicians in America advocated clitoridectomy in such cases, and the above may have interest to any such as have a lingering belief in that method of treatment.

It seems that the sexual element is the most prominent of all in the lives of the Egyptians. They are fortunately married in childhood, but that does not prevent great excesses in a natural way among both sexes, nor the commission of nameless crimes among the women in the harems. The sexual element is therefore very prominent in all of the forms of insanity of both men and women. Delusions with a sexual basis are very common.

General paralysis is very rare, and it has yet to be proven that it even exists among Egyptians. Dr. Schirs, in nineteen years in Cairo, saw five cases, but none were in Egyptians. Dr. Sandwith, who has practised in Cairo eight years and been a frequent visitor at the asylum, has yet to see a case of general paresis in an Egyptian, and altogether has seen only several in orientals. On the day of my visit to the Cairo institution, four cases were pointed out to me by Dr. Bedr as dementia paralytica, but examination showed that three of them were decidedly not paresis, while the fourth was doubtful. This fourth case presented a few uncertain symptoms of general paralysis and was a Copt. It is rather difficult to explain such a rarity of this disease, while just across the sea, in Greece, it is unusually common. If syphilis and sexual excess were at the root of general paralysis then Egypt would be its Paradise. Dr. Sandwith thinks it may have something to do with the food, for the Egyptians are almost perfect vegetarians.

The Cairo asylum would be a good school for a study of craniometry and racial characteristics. Among the patients I saw there were Egyptians, Copts, Nubians, Soudanese, Abyssinians, Turks, Greeks, Syrians, Circassians, Jews, and Bedouins. A difficulty in the way of cranial measurements would be the scalp disease, from which it would seem that almost no patient is free—favus. And the prevalence of ophthalmic disorders among all classes of people in the country interferes, as I very often found during my sojourn, with diagnosis, not only in some of the nervous disorders but also in the mental cases.

CAIRO, March 8, 1892.

A CASE OF PELIOSIS RHEUMATICA.

BY GEORGE E. JOSEPHS, M.D.,

PEMBROKE, ONT.

A RATHER unusual case of this disease came under my observation some time ago.

J. L——, male, aged eighteen, single; occupation, baker; habits good; family history good. Previous history: was always rather delicate during his youth, but never had any special sickness; never had rheumatism.

November 5, 1891.—Complained of pains in the wrist and knee-joints, with swelling and tenderness. In addition to these symptoms he suffered from headache, backache, and a sense of chilliness. In a day or so he noticed a bright-red rash coming out on his arms and legs.

November 9th.—I saw the patient for the first time. Temperature, 102.5° F.; pulse, 92, full and regular; tongue slightly coated; both wrists and knee-joints considerably swollen, and very painful and tender. The chest, upper portion of abdomen, and the extensor surfaces of the arms and legs were covered with numerous ecchymotic spots. These were raised, irregular in shape, and varied in color from a bright-red to a reddish-yellow tinge. A few spots were seen on the back, and one or two on the face. No hemorrhages from any of the mucous surfaces. Heart normal and free from any murmurs. Lungs normal. Bowels somewhat constipated. Appetite poor.

November 12th.—Joint symptoms have improved somewhat. Temperature, 101° F.; pulse, 80, full and regular. The ecchymotic spots are fading in color, and the edges are less distinct. The patient is looking much brighter.

November 15th.—A fresh crop of petechiæ is appearing on the thighs and arms. They are much larger than before, and the color of many of them has more of a bluish tinge. The wrists are more swollen and painful. Tongue heavily coated. Temperature, 102° F.; pulse, 85 and regular. Facial expression dull and heavy.

November 16th.—The patient was awakened in the morning by an attack of severe abdominal pain of the nature of colic, with great nausea and vomiting. The

pain was only relieved after giving a hypodermic of morphia. A few hours afterward he passed considerable blood from the bowels.

November 18th.—He was much better to-day. Temperature, 100° F.; pulse, 78 and regular.

November 22d.—Still improving. The eruption has almost disappeared. Temperature, 99° F. Pulse, 70.

November 25th.—A fresh crop of petechiæ is coming out. The wrist-joints are a little swollen and tender. Temperature, 101.5° F.; pulse, 80 and regular. Six or seven hours after the appearance of the fresh eruption very severe abdominal pain came on. It was so severe that he fairly writhed and screamed in agony, and was only relieved after receiving two hypodermics of morphine, one-fourth grain each, the first one failing to have any effect and necessitating a second in forty minutes.

The eruption of petechiæ was very profuse, much more so than before. Some hours after the pain had subsided he passed some blood from the bowels, but not as much as on the former occasion.

November 28th.—Improving. Spots fading. No pain in joints nor any swelling.

December 4th.—Petechiæ nearly all gone. The patient is cheerful, and his appetite is improving. Still he has rather an anæmic appearance. He continued improving till December 12th, when there was a slight recurrence of the eruption on the arms and legs, followed by slight colicky pains. No joint trouble. Temperature, 99° F.; pulse, 72 and regular. From this on he continued to improve. There was an occasional return of the eruption at intervals for three or four weeks longer, but there was no pain nor swelling of the joints. The temperature and pulse remained normal. He was able to resume his occupation as a baker by January 10th, 1892, and is now enjoying excellent health.

Peliosis rheumatica is usually a rather mild disease; more common during early adolescence, and usually running a very irregular course, the prognosis as a rule being favorable. The unusual symptoms in this case were the very severe abdominal pain and the recurrence of fever, and swelling and pain in the joints, with each fresh eruption of petechiæ. Most authors lay but little stress on the occurrence of colic, though the article in Keating's work on "Purpura," states that sometimes abdominal pain and some nausea occur during the course of the disease. In this case the pain on two occasions was very severe. The hemorrhage from the bowels was also a rather unusual symptom. On one occasion the quantity of blood passed was considerable. Fever was also a prominent symptom, the temperature rising 2° F. to 3.5° F. above normal with each recurrence of the eruption. Peliosis rheumatica is, as a rule, an afebrile disease, excepting at the first onset, when there is some elevation of the temperature, but this usually disappears with the appearance of the eruption. In this case there was always more or less fever with each fresh crop of petechiæ, and the temperature declined during the fading of the rash. The joint symptoms were rather more marked than is usual in these cases, and while in the first attack they preceded the appearance of the rash by about forty-eight hours, yet in the subsequent relapses the pain and swelling in the joints appeared almost simultaneously with the reappearance of the petechial spots. The joints usually affected are the knees and ankles. In this case the wrists and knees were affected, there being no pain or swelling in any of the other joints. Although the joint symptoms were so well marked in this case, still I do not think there was anything of a rheumatic element present. Probably the joint trouble was due either to serous effusion into the joint, or else to small hemorrhages into the joint due to congestion of the synovial membranes. I found it difficult to account for the severe colic, but thought it might probably be due to the appearance of a copious eruption of ecchymotic spots in the mucous membranes of the intestines; the hemorrhage from the bowels inclining me to that view. The cause of this trouble is not always plain. The disease often appears in those who are apparently healthy. In this case I attributed it to the occupation of the patient. He worked in a poorly-ventilated shop for a number of hours each day. This, together with poor nourishment, tended to lower his general health, and to interfere with the nutrition of his body.

The treatment in these cases is not very satisfactory. They usually run a long, irregular course, having frequent relapses. Many different drugs have been recommended, such as spirits terebinth., tincture sulph. and sulph. aromat. and tincture iron. None of them seems to have any specific action. General dietetic and hygienic treatment, with treatment of the symptoms as they arise, will probably be as satisfactory as any. In this case I used the spirits terebinth. with mucilage acacia, with very good results, giving iron for the anæmia and morphia to relieve the pain, as well as giving the patient as much nourishment as possible in a concentrated form.

Therapeutic Hints.

Treatment of Cystitis.—Dr. Renaud (*Le Bull. Med.*) has found the following formula very satisfactory in the treatment of cystitis:

℞. Acid oxalic..... gr. xv.
Syr. aurant. cort..... ℥ j.
Aq. dest..... ℥ iv.

M. S.: To take in dessertspoonful doses in the space of two days.

Treatment of Chronic Prostatitis.—Dr. Oberlaender treats chronic prostatitis with the following suppositories, introduced each night after the bowel has been emptied: ℞. Iodoform, gramme 0.5–1; ol. amygd. dulc., q. s. ut sol.; ol. theobrom, q. s. ut ft. suppos. no. x. The sweet almond oil makes the absorption of the iodoform more certain, and this drug is found superior to iodide of potassium. However, some patients cannot take ten centigrammes daily without showing some signs of intoxication.

Chloralamid.—Dr. Simpson (E. M.) says chloralamid acts more speedily that sulphonal and is not followed by the mental confusion and dulness. Thirty to forty grains is almost certain to be followed by refreshing sleep in nervous insomnia from overwork, worry, and anxiety. In delirium tremens it can be freely used without fear of prejudicial action on the heart. In his experience patients do not become accustomed to it and require increasing doses.

Erythema Nodosum in Children is treated successfully by Dr. Crentz (*Aertzlich. prakt.*, No. 37, 1891) with antipyrin in dose of one decigramme for each year of the child's age, three or four times each day. From eight to fourteen days brought about a cure. In adult cases gramme doses can be given.

Convulsions in Children.—Safe rule in all cases to see that stomach and alimentary canals are emptied. For this, give a full dose of ipecac, repeating in ten minutes if necessary. If this fails to bring on vomiting, tickle the fauces till successful. Give a copious enema, and follow with a half-ounce dose of castor oil. After purging, give chloral till relief is obtained. For a child two years of age, ten grains in a little water can be given per rectum. A child two years of age will stand half the quantity. Morphine may be used if the convulsions are due to uræmia. If scarlet fever or measles is coming on do not purge too freely, as it delays the eruption. The popular hot bath should be used with caution. If the cause of the convulsions is the advent of an infectious disease it may do good, as it brings the blood to the surface of the body and relieves internal congestion. If the convulsions are due to central lesions, when treatment is of no avail the hot bath may possibly be used for the consolation of the parents.—Abstract of talk by PROFESSOR J. E. WINTERS.

Cascara Sagrada as a Tænicide.—Dr. J. C. Stephens, writing in the *Medical Age*, reports two cases in which the use of cascara sagrada was followed by the expulsion of tape-worms. In one case acetanilid had been given, but in the other the cascara sagrada alone had been prescribed, so that if the expulsion of the worm was more than a coincidence it must have been due to the action of the sagrada.

Chloride of Iron in Typhoid Fever.—Dr. J. W. Anderson describes in the *British Medical Journal* a mode of treatment for typhoid fever which he has found very effectual. It consists in administering a full dose of the liq. ferri perchloridi fort., namely, 5 minims (for an adult) every hour of the day and night, until a week has elapsed from the complete subsidence of the fever. To enable the patient to take this, the dose is combined with half a drachm of glycerine or 1 drachm of simple syrup, and a few drops of tinct. zingib. fort., and diluted in half a tumblerful of water. If sickness is caused, 5 grains of bismuthi subnit. are given ten minutes before each dose of the medicine until nausea ceases to be produced. In a few days the diarrhœa will be arrested, and thereafter a mild aperient must be given daily as long as the medicine is continued. In a moderately severe case, not brought under this treatment until the end of the first week of fever, it will take, the writer says, ten days to reduce the temperature to normal. If the medicine is not given every hour night and day it will take a little longer; if begun within two or three days of onset of fever, the latter will be gone in about five days.

Biliary Colic.—Dr. J. T. Bagwell has found relief from attacks of hepatic colic by means of resin of guaiac in whiskey (gr. ij.–℥ j.), of which a tablespoonful in water is taken after each meal. It is said also to improve the appetite, increase the secretion of bile, and cure constipation.

Mercurial Inunctions in Diphtheria.—Dr. Moskowitz, of Budapest, reports a number of cases of very severe diphtheria successfully treated by inunctions of mercurial ointment. The ointment is applied twice a day, the neck then being covered with gutta-percha paper and a cloth bandage. No other treatment was employed, except a gargle in a few instances, but every effort was made to keep up the strength by means of nourishing food and stimulants. From two to two and a half ounces of the ointment were consumed during the course of treatment without any signs of mercurialism being noticed.—*Gyógyászat*, No. 52, 2891.

Antiseptics in Cataract Operations.—Graefe uses the following antiseptic precaution in his cararact operations: On the evening before the operation the skin around the eye to be operated on is well washed with ether, and then with a 1 in 5,000 watery solution of sublimate, after which the eye is closed by a pad of boracic cotton wrung out of a sublimate solution, which is removed just before the operation; then the eye is again irrigated with the sublimate solution. The instruments are kept in a four per cent. solution of carbolic acid, but before used are dipped in boiling water. The dressing is kept in a Koch's steam sterilizer, and transferred directly from the latter as soon as required. Despite these elaborate precautions the author states that he has had cases of suppuration in hospital practice occasionally.—*Medical Press.*

Creoline in Eczema.—Dr. Löwengard has found great benefit in eczema from the use of a two per cent. solution of creoline. In one case reported in *Gyógdszat*, a complete cure was obtained in three weeks of an obstinate seborrhœa in a six months old child, which had resisted all the ordinary modes of treatment.

For the Itching of Eruptive Fevers.—An ointment, composed of lanoline 50 parts, vaseline 20 parts, and distilled water 25 parts, has been found by Dr. Klein to be a most soothing application for the relief of the itching accompanying the rashes of measles, scarlatina, and chicken-pox.—*The Lancet.*

Benzosol in Pulmonary Tuberculosis.—Walzer proposes this drug as a substitute for creosote or guaiacol in the treatment of phthisis. It is decomposed in the organism into guaiacol and benzoic acid. He gives it in doses of from twelve to twenty-four grains a day divided into capsules of four grains each mixed with chocolate and sugar.

Earache.—Take five parts of camphorated chloral, thirty parts of glycerine, and ten parts of oil of sweet almonds. A piece of cotton is saturated and introduced well into the ear, and it is also rubbed behind the ear. The pain is relieved as if by magic, and if there is inflammation it often subsides quickly.—*Medical Brief.*

For the Dry, Ringing Cough of Influenza the following is a good combination:

℞. Syrupi picis..... ℥ jss.
Spts. ammoniæ arom..... ℥ ss.
Syrupi pruni virg..... ℥ jss.
Potassii iodidi..... ʒ ss.
M. S.: Teaspoonful 2 to 4 hours apart.

—*North Carolina Medical Journal.*

Chronic Rheumatism.—The following has been recommended:

℞. Acidi arseniosi..... gr. j.
Pulv. guaiaci..... ʒ j.
Pulv. capsici..... gr. x.
Pil. aloes et asafœt..... ʒ j.
M. et ft. pil. No. xl. S.: One pill three times a day.

Furuncles.—An ointment of one part red oxide of mercury in one hundred parts of lanolin is said to be very efficacious in aborting furuncles. It should be rubbed in for three or four minutes at a time, once or twice a day. The same application is useful in panaritium.

Glycerine Suppositories.—Dr. Grewcock, writing in the *Medical Recorder*, recommends the use of a little ball of cotton wool the size of a walnut, saturated with glycerine, in place of glycerine injections. When such a ball is inserted into the rectum it soon provokes an abundant evacuation of the bowel.

Borax in Epilepsy.—Dr. Maiset has obtained excellent results in the treatment of epilepsy by borate of soda. He finds it more efficacious than the bromides in symptomatic epilepsy, but less so in the nervous forms.—*Le Progrès Médical.*

Treatment of Hemorrhoids.—Dr. J. Brindley James writes to the *British Medical Journal* of February 20, 1892, that he has for some years been in the habit of treating hemorrhoids by the simple process of applying calomel to them with the finger alone, and without a single exception he has done so with marked success, especially when inflammatory action was obvious in the hemorrhoidal mass, characterized by mucous discharge and hemorrhage, accompanied by most painful sensation of weight in the rectal region. All these symptoms under this simple influence were speedily relieved, with the still more important subsequent advantage of the patient's restoration to ease. "Only a few days ago," he writes, "a patient came to me suffering so acutely that he could neither sit nor walk freely, each movement of the body entailing exquisite pain. I have now seen him thoroughly enabled to pursue his usual occupations in happy immunity from these distressing symptoms."

For Habitual Constipation.—

℞. Extract. cascaræ sagrad. fl..... ʒ j.
Tinct. nucis vomicæ..... ♏ x.
Tincture belladonnæ..... ♏ v.
Aquæ..... ℥ j.
M. Ft. haustus. S.: To be taken twice a day.

—Dr. James D. Staple, in the *Hospital Gazette.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE INSENSIBILITY OF WOMEN.

PROFESSOR CÆSAR LOMBROSO contributes to the *Fortnightly Review* an article on the insensibility of women, in which he reaches some rather novel conclusions. Professor Lombroso states that accurate studies as to the relative sensibility of woman as compared with man have never been made. He has himself tested the delicacy of the sense of touch, pain, general sensibility (whatever that may mean), smell, and taste in one hundred women and men. He finds that the tactile sense in men, as measured by the æsthenometer, averages about 1.6 mm., in women of the lower classes it is 2.6, of the higher classes 2 mm. The sense of pain, tested by the electrical algometer, is in young men 64, in older men 78 mm.; in young women 53, and in older women 70 mm. In other words, the sensibility to touch and pain is less in women. Smell and taste are rather keener in women. He does not speak of those most important of all the senses, sight and hearing. Lombroso states that he has been informed by surgeons that women show greater insensibility and less shock from the pain of surgical operations. Their lesser degree of sexual sensibility is generally admitted; their inferior moral sensitiveness is accepted as a fact by Lombroso. It would probably be denied by most women, as well as by many of their chivalrous if not scientific admirers. The supposed lesser sensibility of women is thought to be one reason for their greater longevity.

The data obtained by Lombroso are of value, and will be taken for what they are worth. They are certainly insufficient to prove his case. We fancy that the general experience of physicians is rather against the view which he takes. It is an unquestionable fact that women suffer on the average more pain than men. Neuralgias and headaches are two or three times more common, sensory neuroses predominate in the female sex; motor neuroses in the male. Women bear certain kinds of suffering better than men; they are more patient in invalidism; partly because it brings to them the solicitude and attention which their nature craves. That they feel the pain less, or bear the infliction of pain more stolidly on this account is rather doubtful.

Professor Lombroso has, however, opened up a very interesting field of inquiry, and one which deserves more careful and exact investigation than it has yet received.

COLOR-BLINDNESS AND A PRACTICAL REMEDY FOR IT.

DR. A. E. WRIGHT, discussing the subject of the pathology of color-blindness, adopts provisionally the theory of Hering regarding the perception of color. This assumes that the color-sense can be best accounted for by assuming the existence in the retina of two sensitive layers, each of which is subject to modifications in two opposed directions by a corresponding pair of contrast colors. Hering obtains six fundamental colors: green and red, blue and yellow, white and black, associated together in pairs.

Hering's experiments led him further to conclude that in green-red blindness, which is the common form of achromatopsia, there is either an excessive or insufficient amount of retinal pigmentation.

Apart from any theories, however, Dr. Wright states it to be a fact that total color-blindness is very rare indeed; also that yellow-blue color-blindness is extremely rare. The common form is the green-red blindness. Now, it so happens that in the establishment of signals, green and red lights form the most commonly used colors. Hence from three to five per cent. of men capable of doing work as pilots or engineers, are kept out of such employments, often with results that are almost cruel.

Most color-blind men are not perfectly color-blind, but can readily distinguish yellows and blues. Hence it is proposed that the red lights should have a distinctly yellowish tinge and the green lights a distinctly bluish tinge. In this way the differences between signals could be readily made out by almost all the color-blind.

The suggestion is a good one, for it is impossible always to exclude the color-blind from services calling for a knowledge of color-signals. Such a change in the lights would not interfere with the present methods of signalling, and would tend to make it safer.

THE EARL AND THE DOCTORS.

THE Earl of Dunraven, K.P., has undertaken to have what he calls a "Word with the Physicians." The "word" extends over nine columns of *The National Review*, and may therefore be fairly considered a long one. However, the Earl is interesting and discusses a number of practical topics, like influenza, salicin, and the germ theory, in a way that affords entertainment. The earl takes issue first of all with Dr. Maclaggan, because the latter has asserted that salicin keeps off or cures influenza much as quinine does the ague, and also because the doctor says that salicin never causes any unpleasant symptoms. We quite agree with the doctor's critic that both these views are incorrect. But this is only the introduction to a lively attack upon germs, modern views of infection, and modern medical knowledge generally. It is here that his lordship shows ignorance and misconception, regarding what modern pathology and bacteriology have done, which are extraordinary. The time is passed for cheap jests about "germs" and germ "theories." While the subject is not mastered, it has passed the stage of hypothesis and reached that of doctrine. We know with as much certainty as we possess any knowledge, the natural history of many germs and their relation to certain

fevers and infections; every month brings us nearer to that full acquaintance with the nature of disease and its cure and prevention, regarding which the noble earl expresses his doubts, and anent which he exhibits large masses of noble ignorance.

NEAR-SIGHTEDNESS IN MUSICIANS.

In a treatise on the cause of myopia, published some five years ago, Stilling commented on the fact that no author had, up to that time, noticed the frequency of this condition among musicians. "One need but to watch carefully," he said, "any orchestra playing in a theatre or casino, to convince himself of the justice of this observation. I have myself had so much to do with music that I feel competent to pass a tolerable judgment upon the nature of this occupation. I have also had many personal acquaintances among musicians, a very large proportion of whom were near-sighted, the condition being one of acquired occupation myopia." This is due, he believes, to the strain caused by note-reading, especially by the constant looking down. The myopia is, therefore, entirely independent of the kind of instrument played upon. "The drummer and the double-bass singer become just as near-sighted as the pianist or violinist." There is nothing particularly trying in simply reading musical notation, but the strain comes in being obliged always to look downward while the head is carried erect.

Dr. Hermann Cohn has now written an article in the *Berliner klinische Wochenschrift*, of March 21, 1892, with the object of showing that this theory of Stilling's is purely fanciful, being founded upon an erroneous assumption, since the majority of musicians whom he has examined are not myopic. In the first place, he says, the mere fact that many members of an orchestra have glasses does not prove anything, for these may be either convex or concave. Then many musicians have undertaken a long course of theoretical study before beginning to practise on any instrument, and may have weakened the sight through too constant application to books. Finally, many musicians, good as well as bad, do not look at the notes after they have played an air a few times, and so expose the eyes to no special strain. The writer has undertaken to examine the eyes of all the professional musicians in Breslau, and publishes the result of the first series of sixty-two members of the "Orchester-Verein." Of these twenty-five had normal vision, and thirty-seven, or nearly sixty per cent., abnormal vision. Of the latter, three were far-sighted, eight had astigmatism, six had cataract, corneal opacities, etc., and but twenty were myopic. But these were not all myopic as a consequence of their work, for nine were near-sighted when in school; one had been a lawyer's clerk, and had had a great deal of writing to do in a dark room, and was already myopic when he began to play the 'cello; four more had injured their vision by writing music at night for many years. Thus there remained but six out of the sixty-two who could with any show of reason attribute their myopia to the necessity of having to look down when reading their notes.

Professor Steenberg, a well-known alienist in Copenhagen, died of heart disease recently in that city.

News of the Week.

The American Surgical Association will meet in Boston, Mass., Tuesday morning, May 31, and June 1 and 2, 1892, in the Hall of the Natural History Society, on Berkeley Street.

Bellevue Hospital Medical College.—Dr. A. Alexander Smith has been appointed Professor of Principles and Practice of Medicine, and Clinical Medicine, in place of Dr. P. G. Janeway, resigned. Dr. Herman M. Biggs has been appointed Professor of Materia Medica and Therapeutics, Pathological Anatomy, and Clinical Medicine, in place of Dr. Smith, and has been nominated Attending Physician to Bellevue Hospital, in place of Dr. Janeway. Dr. Henry M. Silver has been appointed Demonstrator of Anatomy in place of Dr. Biggs.

Dr. J. M. Keating, of Colorado Springs, has resigned the editorship of the *Climatologist*.

Dr. John William O'Callaghan, a young physician of this city, died on April 29, 1892. He was born at Thompson, Conn., on September 8, 1859. After attending the public schools in Milford, Mass., and Salem, Mass., he entered Harvard College in the fall of 1877, and was graduated with his class in 1881, being admitted to the degree of A.B. *cum laude*. The first year after graduation was given to private tutoring in New Hampshire. At the same time he began studying law, which, however, he soon abandoned. Later he began the study of medicine under practising physicians in New Hampshire and Massachusetts. He entered the second-year class of the Harvard Medical School in 1883, and was graduated in 1885. Dr. O'Callaghan practised in Danvers, Mass., until 1887, when he settled in New York City, opening an office in East Eighty-ninth Street. His health soon began to decline, and he was finally compelled to give up practice and leave the city. The cause of his death was pulmonary phthisis. A solemn high mass for the repose of his soul was sung in the Paulist Church, at Fifty-ninth Street and Ninth Avenue, on May 2d, and the body was taken to Calvary Cemetery for interment. A brother of the deceased, Peter Joseph O'Callaghan (Harvard, '88), a member of the Community of St. Paul the Apostle, was the sub-deacon at the mass of requiem. Dr. O'Callaghan was a man of retiring disposition. He was never married.

Dr. Helen T. Graves, of Kansas City, Mo., died on Sunday evening, April 3d, of pernicious malarial fever. She was a graduate of the Woman's Medical College of Philadelphia, of the Class of '83.

The American Electro-therapeutic Association will hold its second annual meeting in New York, at the Academy of Medicine, on October 4th, 5th, and 6th, under the presidency of Dr. W. J. Morton.

The American Neurological Association will hold its annual meeting in New York, at the Academy of Medicine, on June 22d, 23d, and 24th, under the presidency of Dr. C. L. Dana.

Removal of Clots from Base of Brain—Recovery.—Dr Laplace (Philadelphia) records a case of basal hemorrhage from perforating wound through the left orbit;

coma, convulsions, and signs of compression existed. Trephining was done just above the zygoma, and a specially contrived instrument of malleable wire ("a miniature egg-beater") was insinuated between the dura and the skull to the cavernous sinus, and about a teaspoonful of clot was removed. Consciousness returned four days later, power of speech a week later still, and then recovery was steady and uninterrupted. The patient has anæsthesia of the left eye and internal strabismus.—*Medical and Surgical Reporter.*

Dr. William Cobb Whitfield, of La Grange, N. C., has been elected superintendent of the new Orphan Home, established in Goldsboro by the Odd-Fellows of North Carolina.

Registered Midwives for New Jersey.—The following is the law to regulate the practice of midwifery in the State of New Jersey:

1. Be it enacted by the Senate and General Assembly of the State of New Jersey, That every person practising midwifery in any of its branches shall possess a certificate from the State Board of Medical Examiners as hereinafter provided.

2. And be it enacted, That every person now practising midwifery in cities of the first and second classes in this State shall, within thirty days after the passing of this act, personally present to the State Board of Medical Examiners an affidavit setting forth the name, nationality, age, authority, location, and length of practice, together with a certificate of good moral character from some registered physician, resident of the same district; whereupon the Board, on receipt of a fee of one dollar, shall issue a certificate, signed by its president and secretary and bearing the seal of said Board, entitling the person named therein to practise midwifery in this State.

3. And be it enacted, That every person hereafter beginning the practice of midwifery in this State shall appear before the State Board of Medical Examiners and submit to such examinations in midwifery as the Board shall require, and if such examination is satisfactory to the examiners the said Board shall, upon the receipt of a fee of five dollars, issue a certificate the same as provided in section two of this act.

4. And be it enacted, That the person so receiving said certificate shall file the same, or a true copy thereof, with the clerk of the county in which she resides, and said clerk shall file said certificate, or a copy thereof, and enter a memorandum thereof, giving the date of said certificate and the name of the person to whom the same is issued, and the date of said filing, in a book to be provided and kept for that purpose; and for which registry the said county clerk shall be entitled to demand and receive from each person registering the sum of twenty-five cents.

5. And be it enacted, That the State Board of Medical Examiners are hereby authorized and empowered to execute the provisions of this act, and shall hold examinations of candidates for certificates in midwifery at such times and places as may be deemed expedient.

6. And be it enacted, That the State Board of Medical Examiners may refuse licenses to persons guilty of unprofessional or dishonorable conduct, and may revoke licenses for like cause, or for neglect to make proper returns to the various health officers, of births, and the cases of puerperal and other contagious diseases occurring in their practice.

7. And be it enacted, That any person shall be regarded as practising midwifery, within the meaning of this act, who shall publicly profess by advertisement, sign, card, or otherwise to be a midwife, or who shall, for a fee, attend to women in childbirth; but nothing in this act shall be construed to prohibit gratuitous service in case of emergency, nor to the legally qualified physicians or surgeons of this State.

8. And be it enacted, That any person practising midwifery in this State without first complying with the provisions of this act, shall be guilty of a misdemeanor, and shall be punished by a fine of not less than ten dollars nor more than fifty dollars, or by imprisonment in the county jail for not less than ten nor more than thirty days, or both, in the discretion of the court.

9. And be it enacted, That all acts or parts of acts inconsistent herewith be, and the same are hereby repealed, and that this act shall take effect immediately.

Approved, March 28, 1892.

Vienna has a new medical society called the Medical Club.

Death of Dr. Joseph Draper, of Warwick, Mass.—Dr. Joseph Draper was born in Warwick, Mass., February 15, 1834. His early years were spent on a farm, which was very distasteful to him. He commenced the study of his profession with Dr. James Deane, of Greenfield, Mass., afterward attending lectures in New York, and graduating from Jefferson Medical College in 1858. In October, 1859, he was appointed assistant to Dr. Rockwell in the Brattleboro Asylum, and remained until 1865. He was afterward assistant, and some of the time acting superintendent, at the Insane Asylum in Worcester, Mass. In 1870 he was appointed assistant in the New Jersey Insane Asylum, and remained until 1873, when he returned to Brattleboro, and the growth of this institution is attributable to his zeal. In 1881 he was given three months' leave of absence by the trustees to study abroad, and in this time he visited many of the institutions of England and Scotland, and learned much from them for the benefit of the Brattleboro Asylum. He was an active member of the State and County Medical Societies, of the Association of Medical Superintendents of American Institutions for the Insane, President of the Psychological Society, Massachusetts Medical Society, and of the Medico-Legal Society. His contributions to the literature of his profession were very numerous: "Annals of Vermont Asylum for the Insane," covering a period of fifty years of its history; "Sketch of Dr. James Deane," 1858; "Sketch of Dr. W. H. Rockwell," 1858; "Sketch of Dr. C. H. Tenney," 1874; "The Pathology of Insanity," 1875; "The Pathogenesis of Insanity," 1877; "Hysteria in Insanity," 1879; "Neurasthenia of the Ganglionic Nervous Centres," 1881; "Insanity in Great Britain and the Continent of Europe," 1882; "The Responsibility of the Insane Outside of Asylums," 1883; "Vermont Asylum in the History of Brattleboro," 1880; "Insanity in Vermont, 1835-85," 1885; "Obituary of Dr. Sumner Putnam," 1888; "The Oath of Hippocrates," 1889; "Nervous Exhaustion," 1890; "Subjective

Delusions," 1890. He was a prominent member of the Professional Club at Brattleboro, and has lectured before them, and in other towns. Dr. Draper was married at Warwick, Mass., to M. J. Putnam, in January, 1863, who still survives him.

American Pediatric Association.—Officers elected for the ensuing year: *President*, Dr. Blockader, of Montreal; *1st Vice President*, Dr. Keating; *2d Vice-Presiaent*, Dr. Earle, of Chicago; *Secretary*, Dr. Samuel Adams, of Washington; *Treasurer*, Dr. Townsend, of Boston; *Recorder*, Dr. Watson, of Jersey; *New Member of Council*, Dr. Rotch, of Boston. New members elected were: Dr. J. P. Crozer Griffith, of Philadelphia, and Dr. T. F. Sherman, of Boston.

Dr. Kitasoto, the eminent Japanese bacteriologist, was recently in this city on his way home to Tokio. The Prussian Minister of Public Instruction recently conferred upon him the title of Honorary Professor.

The Ohio State Medical Society held its forty-ninth annual session in Cincinnati, May 4th, 5th, and 6th. It was largely attended, and was a very pleasant meeting. The Cincinnati Medical Societies gave a reception and banquet at the Burnet House to the visiting physicians and ladies, on Thursday evening. Put-In-Bay was selected as the place of the next meeting, in June, 1893. The officers elected for the coming year are: *President*, Dr. Dudley P. Allen, of Cleveland; *Vice-Presidents*, Dr. N. P. Dandridge, of Cincinnati; Dr. E. C. Brush, of Zanesville; Dr. C. A. Kirtley, of Toledo; Dr. W. A. Dixon, of Ripley; *Secretary*, Dr. T. A. Fitzpatrick, of Cincinnati; *Assistant Secretary*, Dr. J. A. Spence, of Crestline; *Treasurer*, Dr. G. I. Cullen, of Cincinnati; *New Member of Finance Committee*, Dr. P. P. Pommerine, of Berlin; *Committee on Ethics*, Dr. C. S. Van Pelt, of Toledo; *Publication*, Dr. L. S. Colter, of Cincinnati; *Legislation*, Dr. C. E. Beardsville, of Ottawa; *Admission*, Dr. A. R. Baker, of Cleveland. Clinics were held at the various hospitals, and a number of operations performed in honor of the visitors. Aside from the regular programme, the constitution was changed to conform with that of the American Medical Association, and the session of 1892 adjourned.

The Kentucky State Medical Society met at Louisville, Ky., May 4, 5, and 6, 1892. Dr. H. Brown, of Hustonville, presided and gave his address on "The Use and Abuse of Medicines." This was followed by a humorous address from Rev. C. J. K. Jones, of Louisville, on "My Doctor." This was greeted by round after round of applause, and a vote of thanks was unanimously tendered the reverend gentleman for the hit of the evening. Officers elected for the coming year are as follows: *President*, Dr. Arch Dixon, of Henderson; *1st Vice-President*, Dr. T. B. Greeley, of Orel; *2d Vice-President*, Dr. Turner Anderson, of Louisville; *Treasurer*, Dr. J. B. Kinnaird, of Lancaster; *Secretary*, Dr. Steele Bailey, of Stanford; *Board of Censors*, Drs. B. V. Stone, of Hopkinsville; W. L. Bodman, of Louisville; Jesse Smith, of Hodgenville. Interesting reports and papers were read by Dr. W. B. McClure, of Lexington, on "Otology;" Dr. William Wathen, on "Pelvic and Abdominal Surgery;" Dr. J. W. Irwin, of Louisville, on "Some Sequelæ of Influenza; Dr. J. H. Letcher, of Henderson, on "Intestinal Anastomosis; Dr. William Cheatham, of Louisville, on "The Recent Treatment of Granular Lids;" Dr. J. B. Marvin, of Louisville, on "Some Diseases of the Spinal Cord;" Dr. W. R. Blue, of Louisville, on "Electric Illumination of the Bladder;" Dr. Fayette Dunlap, of Danville, on "The Present Status of Brain Surgery;" Dr. G. Frank Lydston, of Chicago, on "A Case of Syphilitic Circinnate;" and a number of other instructive and carefully prepared papers were read. The resident physicians royally entertained the visiting members and ladies at a reception and banquet at the Galt House, at which fully five hundred were present. A number of private dinners and entertainments were given. Dr. Simon Flexner, of Louisville, won the Marvin prize of $50. Subject of Essay, "Etiology of Croupous Pneumonia." The Society closed its pleasant and profitable thirty-ninth annual session, to meet next year at Frankfort.

Memorial Pavilion to Dr. Dubois.—At a meeting of the Trustees of the New York Eye and Ear Infirmary, a few days ago, the family of the late Dr. Abram Dubois, for nearly half a century the operating surgeon of the infirmary, proposed to erect a pavilion in his memory, to cost about $80,000. The Trustees gladly accepted the offer. The memorial will be a monument to a man of self-sacrifice, who devoted himself to the relief of human suffering. The New York Eye and Ear Infirmary, which was established in 1820 by Dr. Edward Delafield and Dr. J. Kearney Rogers, is one of the oldest in this country.

Programme of the Seventh Annual Meeting of the Association of American Physicians, to be held in Washington, May 24th, 25th, and 26th: "President's Address," by Henry M. Lyman, of Chicago, Ill.; General Business; "The Cold-water Treatment of Typhoid Fever," by G. Wilkins, of Montreal; "The Treatment of Follicular Tonsillitis," by G. M. Garland, of Boston; "A Collective Investigation in Regard to the Value of Quinine in Malarial Hæmaturia or Malarial Hæmoglobinuria," by H. A. Hare, of Philadelphia; "Alcoholism," by T. S. Latimer, of Baltimore; "Practical Results of Bacteriological Researches," by G. M. Sternberg, U. S. N.; "The Treatment of Experimental Tuberculosis by Koch's Tuberculin, Hunter's Modifications, and other Products of the Tubercle Bacilli," by E. L. Trudeau, of Saranac Lake; "Report of a Case of Glanders, with Results of Bacteriological Study," by William Pepper, of Philadelphia; "The Bacteriological Study of Drinking-water," by V. C. Vaughn, of Ann Arbor; "The Morbid Anatomy of Leprosy," by Heneage Gibbes, of Ann Arbor, Mich.; "Discussion on Dysentery—Etiology and Pathology," by *Referee* W. T. Councilman, of Baltimore; "Symptomatology, Complications, and Treatment," by *Co-Referee* A. B. Ball, of New York; "Treatment of Acute Dysentery by Antiseptic Colon and Rectal Irrigation," by W. W. Johnston, of Washington; "A Contribution to the Study of Hepatic Abscess," by W. C. Dabney, of Virginia; "Pulsating Pleural Effusions," by James C. Wilson, of Philadelphia; "A Case Presenting the Symptoms of Landry's Paralysis, with Recovery," by F. T. Miles, of Baltimore; "A Case Showing Symptoms of Landry's Paralysis—Recovery," by A. McPhedran, of Toronto, Canada; "The Areas of Anæsthesia in Spinal Cord

Lesions as a Guide to Localization," by M. A. Starr, of New York; "A Study of the Seasonal Relations of Chorea and Rheumatism for a Period of Fifteen Years," by Morris J. Lewis, of Philadelphia; "The Significance of Intermission in Functional Nervous Diseases," by W. H. Thomson, of New York; "Misconceptions and Misnomers Revealed by Modern Gastric Research," by Charles G. Stockton, of Buffalo; "The Production of Tubular Breathing in Consolidation and other Conditions of the Lungs," by Charles Cary, of Buffalo; "The Different Forms of Cardiac Pain," by Samuel G. Chew, of Baltimore; "The Late Systolic Murmur," by J. P. Crozer Griffith, of Philadelphia; "Tube Casts and their Diagnostic Value," by I. N. Danforth, of Chicago; "Studies in Hypnotism," by B. F. Westbrook, of Brooklyn; "Influenza, and Some of its Present Aspects," by Morris Longstreth, of Philadelphia.

Regulation of Dispensary Practice.—The Ophthalmic Hospital of Cincinnati issues and uses the following slips:

Ophthalmic Hospital and Dispensary, Cincinnati, O.

It has been suggested that you are not a proper subject for treatment in this hospital. This institution is for those in poverty and distress *only*, and it will be necessary for you to furnish evidence on this blank from some responsible party that you are a proper person for the recipiency of its charity.

(Signed) ——— ———,
Executive Officer, Ophthalmic Hospital.

Date, ———, 189—.

——— ——— is known to me to be worthy of the charity offered by the above institution.

(Signed) ——— ———.

It seems to us that this is a long step in advance, and one that might be adopted by all the dispensaries without detriment to their attendance, but with decided benefit to the medical profession in general.—*Lancet-Clinic.*

The Question whether a Negro Physician shall be received at the post-graduate institutions of this city is agitating the managers.

The World's Fair Entertainment Committee of the Medical Profession of Chicago recently met and organized. The committee has undertaken preparations for extending hospitality to members of the profession visiting the World's Fair, by means of medical head-quarters, and in exceptional cases by the giving of banquets and receptions. The following reported themselves as permanently authorized to act for their respective societies: Dr. John E. Owens, Dr. A. E. Hoadley, and Dr. J. B. Murphy, representing the Chicago Medical Society; Dr. Harold N. Moyer, Dr. D. R. Brower, and Dr. C. W. Earle, representing the Practitioners' Club; Dr. William E. Clark, Dr. C. D. Wescott, and Dr. A. H. Foster, the Pathological Society; Dr. J. H. Etheridge, Dr. F. E. Waxham, and Dr. L. L. McArthur, the Gynecological Society; Dr. T. T. Nelson, and Dr. Archibald Church, the Medico-Legal Society; Dr. J. C. Cook, Dr. H. H. Deming, and Dr. Milton F. Coe, the South Side Medical Society; and Drs. Hektoen, Winthrow, and Holmboe, the Scandinavian Medical Society.

Hot Springs has a medical journal. It is conducted by Drs. Keller, Franklin, Holland, and Minor.

Reviews and Notices of Books.

ESSENTIALS OF MEDICAL ELECTRICITY. By D. D. STEWART, M.D., Demonstrator of Diseases of the Nervous System, and Chief of the Neurological Clinic in the Jefferson Medical College, etc., and E. S. LAWRANCE, M.D., Chief of the Electrical Clinic, and Assistant Demonstrator of Diseases of the Nervous System in the Jefferson Medical College, etc. With Sixty-five Illustrations. Philadelphia: W. B. Saunders. 1892.

THIS is No. 23 of Saunders's "Question Compends." The subject of medical electricity, so puzzling to many practitioners, is here presented in a lucid and pleasing manner, yet briefly. The authors' experience as teachers is here put to good account, as it has shown them what points are most apt to be misapprehended by the student, and led them to particular pains in making these clear. The book ought to serve as a useful introduction to Beard & Rockwell's or other elaborate treatises on this important branch of medicine.

A TREATISE ON BRIGHT'S DISEASE OF THE KIDNEYS; its Pathology, Diagnosis, and Treatment, with Chapters on the Anatomy of the Kidney, Albuminuria, and the Urinary Secretion. By HENRY B. MILLARD, M.A., M.D., Fellow of the Academy of Medicine of New York, and of the American Academy of Medicine; Foreign Corresponding Member of the Academy of Medicine of Paris, of the Verein Deutscher Aerzte of Prague, of the Société d'Hydrologie Médicale of Paris, of the Royal Academy of Medicine of Rome; Honorary Member of the Société Anatomique of Paris, etc. Third Edition, revised and enlarged. 8vo, pp. 322. New York: William Wood & Co. 1892.

THE second edition of this work was exhausted more than two and a half years ago, and the third is a welcome addition to the literature of the subject of which it treats. Extensive changes and additions are manifest. The chapter on tests for albumin has been entirely rewritten, and is important as showing the real value of the numerous tests in use, and the liability to mistake mucin and various protein substances for serum albumin. The chapter on physiological or normal albuminuria, so called, has also been rewritten, the author no longer believing that this exists, and now rejects *in toto*, as unsatisfactory, the hurried experiments of Chateaubourg and Capitan, published in 1883, and shows that numerous cases reported as such are only mucinuria. This chapter is of interest, as bearing upon the relations of albuminuria to life insurance, and assigning to it its true significance as to harmlessness or importance.

In showing how mucin often produces the reaction of albumin, the author writes as follows: "It is extremely difficult sometimes to differentiate mucin from serum albumin. I have made a large number of experiments which show that any liquid containing secretions from irritated or inflamed mucous surfaces will give a distinct reaction with nitric, picric acid, Tanret's, and my own test (both these latter containing acetic acid), and especially with citric acid, which is the most sensitive test for mucin. Secretions from the bronchial, pharyngeal, or nasal mucous membrane, not purulent, but as they may occur in any ordinary cold, macerated, heated, not to the boiling-point, and filtered, will give a reaction with all the above tests. I have mixed these, after filtering, with non albuminous urine with the same results. And this is not surprising, inasmuch as mucus usually contains in solution organic nitrogenous substances (as well as salts), mucosine, and cells of the mucous membrane from which the mucus is derived. It is in some respects really albuminous. And it is this element, I believe, which in many cases constitutes the so-called 'physiological albuminuria.'"

Much new matter has been added, especially upon the ocular derangements and mental disturbances of Bright's

disease, the bacterial origin of nephritis, the albuminuria of pregnancy, the danger of anæsthetics in nephritis, the etiology of nephritis, and upon the treatment. The author does not believe in the albuminuria of pregnancy, that is, an albuminuria directly caused by it, but that the albuminuria in pregnancy in many cases, with sufficient care and sensitive tests, would be found to have pre-existed or that it was contracted during pregnancy, and cites several cases to show this. The chapter on the mental derangements of Bright's disease is of importance from a medico-legal point of view. The use and justification of the employment of the various anæsthetics in albuminuria is fully discussed. As regards treatment, nearly all known remedial measures of value are referred to. The mechanical execution of the book is excellent and even elegant.

A History of Epidemics in Britain, from A.D. 664 to the Extinction of the Plague. By Charles Creighton, M.A., M.D., formerly Demonstrator of Anatomy in the University of Cambridge. Cambridge: At the University Press. 1891.

This scholarly work is unique, and fills a hitherto unoccupied niche in English history, bringing together as it does, in one connected narrative, materials bearing on the origin, progress, and sequels of the great waves of sickness and death which have swept from time to time over the British Isles. After a general review of the earliest epidemics, and of leprosy in the middle ages, the author gives us histories of the black death of 1348–49, the sweating sickness of 1485–1551, the plague, jail fevers, influenzas, and other fevers of the Tudor period; the French pox, small-pox, and measles; plagues, fevers, and influenza from the accession of James I. to the Restoration; sickness among the sailors and colonists in Drake's expeditions, in Jamaica, Virginia, and elsewhere, and finally, of the great plague of London, in 1665–66. The book is one of absorbing interest as well as being a most valuable addition to historical literature, and Dr. Creighton has done a work which should and will win for him the lasting gratitude of all scholars.

Surgical Diseases of the Ovaries and Fallopian Tubes, Including Tubal Pregnancy. By J. Bland Sutton, F.R.C.S., Assistant Surgeon to the Middlesex Hospital; late Hunterian Professor, and Erasmus Wilson Lecturer, Royal College of Surgeons, England. With 119 Engravings and 5 Colored Plates. Pp. xvi., 500. Philadelphia, Pa.: Lea Brothers & Co. 1892.

To gynecologists the name of Mr. Sutton has long been familiar as that of a conscientious worker in pelvic pathology, as well as a comparative anatomist of wide reputation. The present volume contains the substance of valuable papers which have been scattered throughout journals and society reports during the past five or six years, and deserves the careful attention of general readers as well as of specialists. While every chapter includes something that is fresh and interesting, the portions devoted to diseases of the Fallopian tubes and to extra-uterine pregnancy are especially instructive, bearing as they do intrinsic evidences of careful observation and minute personal study. The literature of ovarian and tubal disease is so overburdened with useless "library papers" (as Tait has called them) that we welcome as a refreshing innovation a monograph which is avowedly based upon incontrovertible facts. It cannot be denied that the work has been unduly expanded by the introduction of many chapters on diagnosis and surgical treatment, which appear to serve as a sort of padding and divert the reader's attention from the real gist of the matter—the pathological anatomy of the adnexa. Nevertheless, everything that the writer has to say is stated in such a clear, practical way that one is disposed to excuse this weak side in an otherwise able work.

The author's style is singularly concise—almost epigrammatic. Statements which in a less weighty authority might appear too dogmatic gather force by the positive manner in which they are made. The illustrations, which are nearly all new, are unusually good, and the entire volume is an admirable specimen of the bookmaker's art.

From the introductory sentences of the preface one would infer that the author held the literary honesty of the gynecologists in light esteem; possibly his criticism extends only to American specialists, who certainly have displayed "a notorious amount of egoism." Uneven as the work is, its merits so far exceed its faults that we have no hesitation in pronouncing it the best monograph of the kind which has yet appeared.

Diagnostik und Therapie der Magenkrankheiten. Nach dem heutigen Stande der Wissenschaft bearbeitet von Dr. I. Boas, Specialarzt für Magen- und Darmkrankheiten in Berlin. I. Theil. Zweite neu bearbeitete Auflage. Leipzig: Verlag von Georg Thieme. 1891.

The value of this work on the "Diagnosis and Treatment of Diseases of the Stomach," at least its appreciation by the profession in Germany, is shown by the fact that a second edition was called for in less than one year after the appearance of the first. In preparing this the author has taken note of all the most recent advances in the physical examination of the stomach, and the latest discoveries in the chemistry of digestion. This first volume deals with the general diagnosis and treatment of gastric diseases, and contains chapters on the anatomy and physiology of the stomach, general methods of examination by physical and chemical means, and treatment, general and local, mechanical and medicinal. The text is illustrated with twenty-eight wood-cuts.

Diseases of Urinary Apparatus, Phlegmasic Affections. By John W. S. Gouley, M.D., Surgeon to Bellevue Hospital. Pp. 342. New York: D. Appleton & Co. 1892.

In this his latest work Dr. Gouley has given to the profession almost a classic, certainly an authority, on the subject. He is noted the world over for the depth of his knowledge, the extent of his researches, and for the purity and beauty of his diction. The work in hand is a fine example of each. No more scientific work, or none more valuable, either in technical or practical knowledge, has ever been published on the subject—a subject, by the way, in which Dr. Gouley stands among the foremost of the world's physicians and authors. He begins by saying that a correct conception of disease cannot be formed without previous study of the nature and uses of the organs of the human body, disease being a departure from the normal state of any of these organs. Consequently his opening chapters are devoted to the anatomy and physiology of the genito-urinary tract. They are not claimed to be exhaustive, and yet they contain the essentials with much that is of value to the surgeon especially, that can be found in no anatomy or physiology. Being a brilliant and thorough surgeon himself, the author knows full well the anatomical needs of the operator. Before special subjects are taken up there are chapters on the general pathology of the urinary apparatus. Here is a mine of information. It is a foundation upon which extended knowledge can be easily built. Disease follows simple laws, which, once understood, make the whole subject easily acquired and comprehensible. Dr. Gouley's exposition of the laws are admirable. It is here he explains his term phlegmasic affections—the subject of his work. The term "is intended to convey the idea of a morbid process, one of the local nutritional changes which, when visible and tangible, is ordinarily characterized by heat, redness, swelling, and pain, and which is now believed by many pathologists to be generally caused by microbic invasion." Other infections in his classification are stenotic, auxetic, neoplasmatic, cystic, toxic, traumatic, etc. Phlegmasic affections include interstitial nephritis, pyelonephritis, perinephritis, cystitis, prostatitis, and urethritis. Each of

the subjects is exhaustively considered in the author's masterly way, special attention being paid to treatment. All in all, the work is a most valuable one.

PRÉCIS D'ASSISTANCE AUX OPÉRATIONS. Préparation du Malade et des Instruments, Anesthésie, Soins Consécutifs. Par le DR. PAUL THIÉRY, Ancien Interne des Hôpitaux, Prosecteur et Lauréat de la Faculté de Médecine de Paris, Membre de la Société Anatomique. Paris: A. Maloine. 1892.

THIS is a little work that ought to be of the greatest assistance to the young hospital interne in familiarizing him theoretically with what he will have to learn practically later in his term of service. But it would perhaps be even more useful to the general practitioner whose knowledge of operative surgery is rusty, but who is required to assist the surgeon whom he has called in to operate upon one of his patients. Under each operation the author gives in a few words what it is necessary to do in the way of preparation of the patient, then gives lists of the instruments, sutures, drainage material, dressings, etc., that will probably be needed, and finally formulates directions for the after-treatment of the patient.

THE YEAR-BOOK OF TREATMENT FOR 1892. A Critical Review for Practitioners of Medicine and Surgery. Pp. 491, 8vo, cloth. Philadelphia: Lea Brothers & Co. 1892.

THE "Year-book" is too well known and too highly appreciated to need comment. The immense strides taken in the progress of medicine in all its branches make it impossible for any one to keep up with the times. Hence the necessity of the book in hand. Its score of co-authors sift out what is useful in literature and presents it in a concise, readable form. Thus, with comparatively little labor, the busy practitioner gets the gist of medical literature the world over. Every branch of medicine is covered—new remedies, old ones with new applications, new operations, all receiving attention.

A MANUAL OF OPERATIVE SURGERY. By FREDERICK TREVES, F.R.C.S., Surgeon to and Lecturer on Anatomy at the London Hospital; Member of the Board of Examiners of the Royal College of Surgeons. With 422 Illustrations. Philadelphia: Lea Brothers & Co. 1892.

MR. TREVES has rendered a service to his fellow-surgeons, and especially to the younger generation just stepping upon the scene, in giving them such a useful guide to their art. The work is contained in two large octavo volumes, of 775 pages each. The first volume is devoted to a consideration of the general principles of surgery, anæsthetics, operations upon arteries and nerves, amputations, excisions, and operations upon bones, joints, and tendons. In the second volume the author treats of plastic surgery, operations upon the neck and abdomen, operations on hernia, operations upon the bladder, scrotum, penis, and rectum, and upon the head and spine, thorax and breast.

The most noticeable defect in the work as a whole is a certain want of uniformity in the treatment of the different subjects as regards their relative importance, some important parts being rather cursorily treated while others of comparative insignificance are gone into in a most thorough manner. It seems to us, too, that the author is a little sweeping in his denunciation of the director, for there are some cases in which it is most useful. He means, of course, that the surgeon should be bold and of steady hand, and ought to rely first of all upon his anatomical knowledge and manual dexterity, and the more the surgeon comes up to that standard the less reliance does he place upon the director. But every surgeon is not up to that ideal, and he had far better rely upon his director than work irreparable injury to his patient. We are rather sorry, finally, to see Mickulicz's or Wladimiroff's osteoplastic resection of the foot receive an entire chapter to itself, for it is time it was consigned to the limbo of impracticable and useless operations. Mr. Treves, it is true, does not endorse it, and states that it is still on trial and has been subjected to much adverse criticism; still, we believe it is altogether undeserving of even such notice as it has.

But these are all minor points that do not seriously detract from the value of the book. The author's directions for operation are most excellent and deserve to become classical, the style is good, the cuts are much above the ordinary, and the typography is of the sort that delights the weary eye.

A TEXT-BOOK OF NURSING, FOR THE USE OF TRAINING-SCHOOLS, FAMILIES, AND PRIVATE STUDENTS. Compiled by Clara S. Weeks-Shaw. Second Edition, revised and enlarged, with Illustrations. Pp. 391. New York: D. Appleton & Co. 1892.

THE best evidence of the intrinsic excellence of this well-known work is afforded by the fact that during the seven years which have elapsed since its first publication it has steadily held its own as the favorite text-book in the majority of the principal training-schools in this country, in spite of the fact that many rivals have appeared in the interval. Its essential features are clearness, common-sense, and entire absence of pedantry. We are not exaggerating when we say that the laity are under great obligations to the authoress for instructing them in the principles of caring for the sick. The book is written in such a way that "he who runs may read," and every page bears the impress of personal experience. The present edition shows internal evidence of conscientious revision. Former useless matter has been omitted, and the attempt to keep the work abreast of modern advanced surgery has been highly successful. Any nurse who makes it her constant companion, and who becomes thoroughly imbued with the spirit of the introductory chapter, can hardly fail to become what a true nurse should be—indispensable to the physician. Good nurses are, unfortunately, not so common as one would infer from the number of excellent training-schools in New York alone. The affection known as "big head" plays sad havoc with recent graduates, both male and female. While it is true that a perfect nurse is born, not made, self-discipline, an earnest purpose to attend strictly to her own business and not to interfere with the doctor's, will make any young woman of average intelligence successful in her profession.

The improvements in the revised edition are indicated in the preface. They appear mainly in the chapters on operations. The necessary preparations for aseptic laparotomy are clearly described, and we note with approval a new chapter on gynecology. Aseptic midwifery also receives due attention. The excellent work of the well-known firm whose names appear on the title-page is seen in this as in all their books.

HUMAN MONSTROSITIES. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania, and GEORGE A. PIERSOL, M.D., Professor of Histology and Embryology in the University of Pennsylvania, Philadelphia. Large folio, 13 × 17 inches. In Four Parts, to contain about 150 pages of text, with 39 full-page Photographic Plates from Nature, and many Engravings. Part II., pp. v., 89–112; Plates viii.–xx. Philadelphia: Lea Brothers & Co. 1892.

WE have already referred at length to the salient points of this beautiful work, the second volume of which, containing the description of monstrosities, is even more attractive than the first. There are more plates and less space devoted to the text. The conditions known as anencephalus and exencephalus receive the principal attention. We can only repeat that the work is one which reflects great credit upon American obstetric literature, and deserves a place in the library of every specialist as well as student of anatomy.

Society Reports.

MEDICAL AND CHIRURGICAL STATE FACULTY OF MARYLAND.

Ninety-fourth Annual Session, held at the Hall of the Faculty, Baltimore, April 26, 27, 28, and 29, 1892.

WILLIAM H. WELCH, M.D., PRESIDENT, IN THE CHAIR.

DRS. G. L. TANEYHILL, R. T. WILSON, AND WILLIAM B. CANFIELD, SECRETARIES.

Acute Lobar Pneumonia in the Light of Bacteriological Investigation was the subject of the President's Address. The organism which is now generally conceded to be the cause of acute lobar pneumonia has had a variety of names, but the best is, in my opinion, the diplococcus pneumoniæ. It was discovered in September, 1880, by Sternberg, in his saliva, and was next described in December of the same year by Pasteur, who came on it in inoculating a rabbit with the saliva of a child dead with hydrophobia. In 1885 Sternberg showed the identity of the saliva organism and the diplococcus pneumoniæ, and in July, 1887, A. Fraenkel investigated the same organism. At this time there was confusion between the diplococcus pneumoniæ and the pneumococcus of Friedlander. This latter is a bacillus, the pneumo-bacillus of Friedlander; it is a totally different species, and probably has nothing to do with the causation of acute lobar pneumonia. Since this time the literature of the subject has increased wonderfully, and I shall not weary you by attempting to trace the subject from its beginning to the present time.

The pneumococcus is an organism, lancet-shaped or oval, with one end more pointed than the other, and it is called diplococcus lanceolatus from this shape. The shape is very variable: while the oval is the most common, it is not characteristic, and it is often spherical. It is usually found in pairs, two together, hence the name diplococcus. It may also occur in short chains, and occasionally in long chains. These long chains may be indistinguishable morphologically from the streptococcus, and may be even in colonies indistinguishable, by our present known methods of culture, from the streptococcus. If the pneumococcus can occur under certain conditions in the form of chains, how can we decide whether it is the pneumococcus or a form of the streptococcus? This is the interesting point at present. This difficulty we are not likely to encounter in acute lobar pneumonia.

A characteristic point of difference is the presence of a capsule around the pneumonia organism. These capsules are sometimes easily demonstrable, and sometimes not. The capsules were for a long time not easy to stain, but I have at last come upon a method which yields absolutely positive results in my hands. The presence of the capsule pertains to the organism only in relation to the tissues and organs of the body, and the capsule is not demonstrable in organisms from cultures. The organism dies in large numbers in the body. In the exudate of pneumonia it is astonishing to find how many of these organisms are present. The three distinguishable points of the pneumococcus are expressed in the name, pneumococcus diplococcus lanceolatus capsulatus. In cultures the pneumococcus grows best at a temperature approaching the body temperature. For this reason gelatine is not so good a medium, as it melts at a low temperature, and this is one reason why Friedlander failed to find the organism, because he used gelatine. In cultures they will not grow usually at a temperature below 65° F., but when they have been transplanted they will grow at lower temperatures. They grow on almost all our nutrient media, nevertheless there is no other known organism that possesses such a wide range of growth, that is so particular as to the exact composition of the medium on which it grows as the pneumococcus. The medium should always be carefully tested before, for a very little thing wrong in the composition of the nutrient medium will lead to a failure in the culture of the organism. The properties of the medium which are best adapted for the growth of the organism are, first, its reaction. It should be slightly alkaline and should be made up of the right sort of peptones. Merck's peptones are the best. These two points can be watched with considerable regularity, but the difference which the different kinds of beef make is very hard to understand.

It is not necessary to describe the growth of the organism. It grows best at a high temperature, and in an incubator at body temperature. It does not liquefy gelatine, and grows preferably in agar-agar. Its growth in agar-agar is not easy to see. It coagulates milk, and grows as well with as without oxygen. As a rule, the more virulent the organism the more difficult to cultivate. A very important characteristic is its short vitality. No other organism dies so easily. It dies in less than a week, and has died three days after it was planted, and after two weeks it is non-virulent. The best culture medium is a mixture of agar-agar and gelatine. It is impossible to keep the virulence of the organism for any length of time. The disease-producing or pathogenic power of the organism is very short and generally variable, and some have no virulence. Some kill rabbits within twenty-four hours. The pathological effects of the organism depend on four factors: 1, The animal itself; 2, the degree of virulence of the organism; 3, the number of bacteria which get into the body; 4, the size of the inoculation.

The animals which are most susceptible are rabbits and mice. Mice are more apt to die with material containing the pneumococcus than rabbits, the latter not infrequently surviving the inoculation. Guinea-pigs are relatively insusceptible. There is a difference in different species and in animals of the same species. The number of bacteria inoculated makes a difference, and from this there is a variability in the pathogenic effects. This is not so true with the virulent bacteria as with the less virulent. We can produce different effects on animals by the size of the dose. The site of the inoculation is also very important. The animals usually die sooner when the organisms are injected directly into the blood and peritoneum, and they live longer when the organisms are injected subcutaneously.

The symptoms are fever, diarrhœa, and albuminuria. The elevation of temperature is almost constant. The organisms invade the blood shortly before death, and it is the poisonous products of the organisms in the blood that cause death. The urine of rabbits is normally albuminous, but the albumin is slight in amount. In this case the albumin is very abundant. There is acute pulmonary œdema which may also cause death. In the type more characteristic of the more acute symptoms the animal dies within forty-eight hours, the spleen is enlarged, there are necrotic foci in the liver. It is interesting to note that these necrotic foci have also been found in the liver of human beings who have died of pneumonia. There is an alteration in the kidneys in the majority of cases, and a filling up of the renal glomeruli with fibrin, making a sort of fibrin thrombosis. This has also been demonstrated in human beings. The heart is nearly always fatty and the lungs œdematous.

A second type of the disease is when the animal lives for five or ten days, and when there is a very extensive fibro-purulent exudate along the subcutaneous walls. In this case no organisms can be found in the body, and the exudation along the abdominal walls, where the inoculation was done, prevents the organism from getting into the body—evidently a case where nature throws out a protective wall to keep the invading organisms out. In this case there is a tendency to inflammation of the serous membranes. There is little septicæmia, and while the pneumococcus is in the subcutaneous tissues there is no organism in the body or blood.

In a third type of the disease there is a formation of

localized abscesses. The diplococcus pneumoniæ is a more or less pyogenic organism. These abscesses may be large or small, but they do not generally cause the death of the animal.

A final form of the disease is that in which the animal has died not from infection, but from intoxication. In one case an inoculated rabbit died in two days, and a second rabbit, inoculated from the first, died in sixteen days. In the first animal the organisms were found in abundance, but in the second animal only empty capsules of the organism were found. This rabbit had died from intoxication—was killed by a poison left by the organisms, which had all disappeared. This poison is called pneumotoxine, and is a chemical poison produced from the pneumococcus. It is not a ptomaïne; it is not a crystallizable alkaloidal substance, but it is albuminous and proteid. It has never been isolated in a pure state. The power of these poisons is very great, and the local action is due to them. That is probably the cause of the filling up of the lungs with exudate.

We can render animals immune. Inoculation with a small quantity of a virulent culture, with a larger quantity of a weaker culture, or with the substance itself, will protect the animals for a time or make them immune. The protection of the animals is due to the formation of a special substance which is undoubtedly in the blood. It is called the immunity-producing substance.

The diplococcus pneumoniæ is the only organism which is constantly present in this disease. We can reproduce the disease in animals. It is sufficient to cause an exudate in the body. This new substance is in the blood at or after the crisis, and was not there before the crisis. This has been proved in human beings. Is it the sole cause of pneumonia? This is *sub judice*. In my mind I think it is the only cause. It is unreasonable to think that a disease which runs a course so universally the same can have several causes. There are two arguments against the diplococcus. One is the finding of other organisms in the disease, and the other is the failure to find the diplococcus. Other organisms do get in the lung, but that is natural.

It is not easy to find the organism. We may use several ways: 1. Examine cover slips. 2. Always inoculate two animals, a rabbit and a mouse. 3. Make cultures. Many have relied on only one of these procedures. Negative cases may occur. The origin of the disease is hard to name. There may be two modes of infection. The organism is widely distributed. It is frequently found in the mouth of healthy individuals (about twenty per cent.) and in those not having pneumonia. Lowered vitality may invite an attack of the disease. Epidemics show that infection must sometimes take place from without. House epidemics occur, and here the disease is very limited. There may be asthenic and anasthenic pneumonia, as there may be an infective and a toxic pneumonia. The organisms possess both properties. The inflammatory exudate is a protective. The pneumonia itself is not the danger. The exudate keeps the organisms out of the body. The general symptoms, the action on the heart and kidneys and the nervous system, these we must think of as due to the specific poison. The crisis is coincident with the appearance in the blood of a new substance which kills the disease if the patient recovers. Up to this time the poison has been in the blood, but the appearance in the blood of this antidotal substance causes the crisis, and the poison is no longer found there. The crisis does not cause any change in the lungs. They are just as congested and hepatized after the crisis as before. It is the substance in the blood.

Treatment.—The general treatment is altogether too mechanical. It was supposed that the congested lungs offered too great resistance to the weak heart, and the object of clearing up the lungs was to relieve the heart and help the breathing. It has been experimentally shown, by tying off a part of the lung in a rabbit, that this mechanical obstruction is not sufficient to produce the effects of pneumonia. The question is, can the immunity-producing substance be utilized to treat this disease? Experiments are now in progress to answer this question. They are not to be reported on yet. We have an opening up of a new subject that cannot fail to be of great use to medicine. The study of the chemical substances in the body, and their use in preventing and causing disease, is a very broad question. I believe we are on the verge of a new discovery.

The Surgical Care of Workmen.—Dr. Robert W. Johnson read a paper on this subject in which he spoke of the importance of surgery as applied to the working class. He discussed the operations, principally of the extremities, and urged the operations which would give strength rather than beauty, and based his experience on a large number of cases seen at the Maryland Steel Company's Works.

Dr. Randolph Winslow objected to some of the amputations on the ground that amputations higher up would be better, and would allow the adjustment of an artificial member.

Dr. Johnson replied that most of the men were not in a condition to purchase expensive artificial members.

Meningitis in Children from a Clinical Stand-point.—This was read by Dr. C. O'Donovan. The two kinds are, 1st, simple, and 2d, tubercular. The diagnosis is not easy, and is often only made after death. The diplococcus pneumoniæ has been found in the serous membranes in this disease. His conclusions were:

1. Meningitis is of frequent occurrence, and is insidious in its onset.

2. It is not amenable to treatment except at its beginning.

3. The best treatment is quiet, blood-letting, free purgation, ice-caps, bromides and iodides, and good attention. Even with this care recovery is not frequent.

Notes on the Use of Chloroform.—This was a paper read by Dr. L. E. Neale. He did not believe in the too frequent use of chloroform, but occasionally did use it to the point of obstetric analgesia. He used it in all operations. He used ergot when the uterus was empty. He was an ardent advocate of the douche.

Dr. J. E. Michael thought that Dr. Neale had struck the proper key-note. The obstetrician does, as a rule, use chloroform, and there must be a reason for this. Fordyce Barker had written a good paper on this subject. Within the uterus it has a bad effect on the child, and promotes post-partum hemorrhage. The attainment of the obstetric anæsthesia is very important, for we must recognize that there is a surgical and obstetrical anæsthesia. In some cases it may be necessary to have surgical anæsthesia, but it should not be used as a rule. Ergot, as generally used, does more harm than good.

Dr. P. C. Williams did not think that the abuse of a good article was a good argument against its legitimate use. He agreed with both speakers. It is much easier for a man to argue on this question than for a woman. He did not think that chloroform increased the difficulties of labor, and it diminished the activity of the pain. He has seen cases where the chloroform helped the child to be delivered.

Dr. Hunter Robb agreed with Dr. Neale, and did not think we should use chloroform so often except in operations. He did not think it was well to use antiseptic douches in the uterus, or even in the vagina. It causes a necrosis of the lining membranes of the genitalia, and increases the chances of infection. Keep the external genitalia as clean as you can.

Dr. Thomas Opie agreed with Dr. Neale, and thought that, as a rule, all anæsthetics were dangerous. Morphia and chloral allay the pain more satisfactorily than chloroform, and when chloroform is once given, it must be kept up for a long time. It lengthens the intervals between the pains, but there is much greater danger of hemorrhage. When there is anything in the cavity of

the uterus ergot is contra-indicated. When it is empty we may use it. He does not like the douche.

Dr. A. B. Price had used carbolic acid solutions as injections into the uterus. He did not like ergot when there was danger of post-partum hemorrhage before removing the placenta.

Dr. W. E. Moseley had never seen reason to regret the use of the intra-vaginal douche. It is certainly cleansing, and what is also very important, it makes the patient more comfortable.

Dr. Wilmer Brinton was surprised that some used ergot in the third stage of labor in such a routine way.

Dr. R. H. P. Ellis said if we want the giving of ergot to be effective, we should always give it hypodermically. He did this regularly. When he gave chloroform he had reason to fear hemorrhage.

"The Use of Morphia and Other Strong Analgesics in Gynecological Practice." This was read by Dr. Hunter Robb. The object was to point to the dangers of morphia in certain pelvic diseases.

"A Case of Extra-uterine Pregnancy. Lateral Flexion of the Pregnant Uterus Simulating Extra-uterine Pregnancy." These papers were by Dr. P. C. Williams.

"Abortion: Its Effects when not Treated at all, or Treated on the Expectant Plan." This was by Dr. J. H. Kennedy.

The Specific Action of Drugs.—This paper was read by Dr. J. T. Smith.

Dr. W. H. Welch thought the paper was very suggestive. He referred to the work done in Koch's laboratory. We have in our own bodies agents which are active poisons, and we have also their antidotes. The peptones, for example, are an active poison when inoculated into some animals, and yet they do not harm us, which shows that we must have within us an antidote which protects us. It has been thought, from some experiments performed in extirpating the thyroid gland, that that gland acts as an antidote to some body-poisons. This bears some relation to the condition known as cachexia strumipriva. An animal always dies when this gland is removed, and the removal of other glands may have a similar result. If we cultivate certain bacilli, as the tetanus bacilli, on a culture-medium made of the thyroid gland, it does not act as a poison, as it does when cultivated on other media.

The Necessity of a Public Disinfecting Station in Baltimore; and the Use of Steam under Pressure as a Disinfectant, by Dr. E. F. Cordell.

Dr. W. H. Welch thought that the subject was of the greatest practical importance, and that steam was the great disinfectant. Sulphur is often too much relied on. He told the story of how Koch was fumigated with sulphur fumes on his way from Italy to Germany, and how a cholera culture which he had in his pocket was not at all affected by the sulphur. Sulphur may destroy the germs of small-pox, measles, scarlet fever, but we know nothing of the germs which cause these diseases.

Dr. C. Birnie did not think much of sulphur as a disinfectant.

Dr. W. F. Hines said that sulphur was better when used in a moist atmosphere. In most diseases it was best to try to kill the germs before they got about. We should disinfect the patient as well as the attendants, and, where feasible, burn everything possible.

Dr. W. H. Welch did not think that sulphur fumigation was useless against small-pox, etc., and he referred to the careful work of Dr. Cyrus Edson, of New York. He used other methods, and thought that whitewash was a disinfectant of no mean power, and heat in all forms was effective. It is hard to say how sulphur acts, but it is necessary to have moisture, for in a dry atmosphere it is almost useless, and delicate fabrics are damaged by the dry fumes.

"A Consideration of Some Irregular Positions of the Child in Utero, with Illustrative Cases." This was by Dr. J. H. Branham.

"Inspection of Milk and Dairies." This paper was read by Dr. W. B. Platt.

"Concerning the Significance of Phagocytosis." "Experiments on the Anabolic Function of the Vagus." These two papers were read by Dr. J. C. Hemmeter.

Post-febrile Insanity.—This was the name of a very interesting paper read by Dr. Henry M. Hurd. This was not a new topic. It was first spoken of in 1845. There are many varieties, but one brain condition which bears no relation to the disease which produces it. These insanities after acute diseases are alike in nature. The name confusional insanity was suggested to cover all the kinds of insanity. The three principal forms are those from shock, from specific poisons, and from anæmia, nervous exhaustion, etc. Shock is a very frequent cause of this post febrile insanity. It may come from childbirth, surgical operations, etc. There may be a fixed delirium. Insanity may also come from the specific poisons, from the fevers, pneumonia, uræmic poisoning, influenza, belladonna, iodoform, chronic alcoholic poisoning, and puerperal fever. The poison acts on the central nervous system. These poisons produce an active delirium which is self-limited and stops when the drug is stopped. The third cause is from anæmia and nervous exhaustion. There are delusions of fear and apprehension, perversions of taste, progressive stupidity, and general mental impairment. This may come from typhoid fever. The actual predisposing causes of the delirium are not clearly known. Fixed ideas are impressed on the brain and cause this insanity. He gave three illustrative cases, from which it was evident that we are not justified in giving any one cause to the whole class.

Out of 23 cases, 11 came from typhoid fever; in 4 the insanity was in the form of delirium, and in 7 it came after the fever was over; 8 recovered, 2 died, and 1 did not recover; 9 of the cases were surgical. Insanity may originate from delirium, and in other cases heredity plays an important part. General practitioners do not see many cases, and are apt to give a good prognosis; while alienists see many cases, and give a bad prognosis because they see so many fail to recover which the general practitioner loses sight of. Some, too, are called cured cases which have enfeebled minds.

Prolonged delirium adds greatly to the gravity of insanity. For this reason the Brand treatment of typhoid fever to reduce the fever should be advocated. Few patients treated in this way have post-febrile insanity from typhoid fever. It removes a factor of the danger. Rest is also very important after this disease. The patient should not sit up too soon, and no company should be allowed too soon, and there should be no mental strain; and above all things, such convalescents should not be allowed to go too long without food.

Therefore, the general treatment of this kind of insanity is the removal of the cause, rest, quiet, plenty of sleep, massage, good food, and no asylums, if possible.

Dr. Harry Friedenwald had seen a number of cases of acute mania after cataract operation, and it had been attributed to bad treatment of the eyes and being in the dark room too long.

Dr. H. M. Hurd was quite familiar with that class of patients, and thought the mania was due to the instillation of the atropia. He had seen such cases which got well when the atropia was stopped. He recalled two such cases. This is a toxic insanity. One case was treated for epilepsy; she had wild delirium in the night and broke everything in the room. It was found that stopping the use of belladonna, which she had been taking, cured the disease.

Dr. C. G. Hill recalled a case of insanity from belladonna, which was stopped and the disease got well. He thought, too, that post-febrile insanity was also due to some innate susceptibility of the patient. Many pass through fevers, operations, etc., and do not have this insanity. It need not be inherited. Some cases occur on the slightest provocation.

DR. J. C. HARRIS asked how he had treated these typhoid cases that were followed by this delirium.

DR. GEORGE H. ROHÉ was glad that he spoke of insanity following unusual causes, as puerperal fever. He had been investigating puerperal insanity and the connection of the sexual organs. Cases followed erysipelas. It is a question whether he should class here insanity from sunstroke. In insanity from operations he thought it was not from the operation, but from the woman's condition.

DR. H. M. HURD, in closing the discussion, had never heard of a case of post-febrile insanity following typhoid fever which had been treated by the Brand method. He classes sunstroke with the traumatic diseases; it is a meningitis. It would be of great service if the physician would bear in mind the delirial effects of certain drugs. He related a case of a man to whom physicians had given so much salicylic acid that it had made him temporarily insane, and they wanted to put him into an asylum. He was cured by stopping the drug. He related similar cases with the iodide of potash and atropia.

Diet and Exercise in the Treatment of Epilepsy.—This was a paper read by DR. S. J. FORT.

DR. H. M. HURD said he had found out that the means of treating epilepsy as suggested was much better than with drugs. It was not only necessary to have a varied diet, but the time of eating should be fixed. Epileptics usually eat too often. They should eat their last meal long before they go to bed, that is, six to eight hours before. It is better, too, for them to eat only two meals a day. They should also take all their sleep at once, and not take naps in the daytime, for the unquiet rest of the day and the uncomfortable positions are apt to bring on an attack of the disease.

Some Hints on the Relation of the Sexual Organs to Nervous Disease.—This was a paper read by DR. C. G. HILL.

DR. H. M. HURD said there were two opposing camps, the gynecologists and the alienists, each one thought their specialty was caused by the other. He thought that every asylum should have a gynecologist on its staff.

"A Review of the Literature of Laryngology during the Past Year." This was a paper read by DR. S. K. MERRICK.

"The Relation of Nasal Surgery to the Treatment of Nasal Disease." DR. G. W. THOMAS read a paper on this subject.

"Opening of the Mastoid Process." This was a paper by DR. HARRY FRIEDENWALD.

"Diphtheritic Conjunctivitis." This was read by DR. HIRAM WOODS.

"The Dislocation of an Opaque Lens—Nature's Rare Method of Restoring Sight to a Cataractous Patient." This was by DR. J. J. CHISOLM.

The Expulsion of an Immense Gall-stone under the Action of Chloral.—This was a very interesting case, related by DR. P. C. WILLIAMS. He had attended an old lady, aged seventy-two, for the grippe, and she had apparently recovered. A short time after she ate imprudently, and had what appeared to be an attack of cholera morbus. He used prompt measures and everything was stopped except the vomiting. She had a slight pain over the abdominal region, and on examination he found a well-defined tumor in the region of the ileo-cæcal valve. He thought it was an intussusception. He recalled a case in which he had given forty grains of chloral every two hours for what was an intussusception, with good results; so in this case he gave thirty grains every two hours, and as the vomiting still kept up he gave it per rectum, combined with two drachms of the fluid extract of senna, and at the end of forty-eight hours she was relieved, and the daughter who was watching the case gave him on his next visit the gall-stone, which he showed to the Society. It measured 1⅝ inch in length, 1¼ in diameter, and 3⅝ inches in circumference. It was the largest he had ever seen. The weight was not taken. He had thought it had ulcerated through the bile-duct and had plugged up the ileo-cæcal opening, and the chloral probably relaxed the intestines and the senna hurried it on. It only showed that it was not well to be too precipitate in operating for intussusception.

DR. A. C. POLE said that he had reported a similar case not long ago. The stone in his case weighed two hundred grains, and he had thought it was ileus, and had given extract of belladonna and podophyllin.

The Annual Oration.—At the evening session Dr. Frederick E. Lange, of New York, delivered the annual oration, on the subject of "The Pathology and Treatment of Acute Spontaneous Osteo-myelitis." Osteo-myelitis is comparatively a recent nosological conception. Chassaignac first described it, as we now understand it, in 1854, but it is of special interest to this Society to state that Nathan Smith, who flourished in 1798, described this condition; and his son, Nathan R. Smith, in 1834, in the history of his father, gave a very good description of this disease long before the French writers thought of it.

It is a disease which begins very slowly, and is often not suspected. In this country the disease is rare, and it is also rare in some parts of Germany and Switzerland. It is not often recognized. It occurs in young persons, and attacks the juxta-epiphyseal portions of the long bones. The neighboring joints are involved. In 1884 Becker described a coccus, and later Rosenbach described an organism. The type of the disease is an acute infectious disease of specific character, and Rosenbach thought that this organism was the specific organism of the disease. Krause found the same organism in carbuncle of the neck. The pathogenic organism gets into the circulation either through the skin or the intestinal tract. It may occur in a healthy subject of the growing age, and may come after injury, exertion, etc. The patient complains of pain in an upper or lower extremity, near one of the large joints, then a little time passes and the general disturbances come on.

It may assume a typhoid condition, and then the patient cannot call attention to the trouble and it is treated as if it were typhoid fever. The bone feels as if it were broken. Again it may be like acute articular rheumatism, and is a pseudo-rheumatism, and it may go on to abscess and necrosis of bone. The epiphyses of the femur may become necrotic, and we may have a chronic bone abscess, a specimen of which he showed. There is a tendency of the patient to get over the primary and get secondary affections of other bones. The system of such patients seems to be under the influence of some slow poison, and exhaustion and disintegration takes place and the rest is much disturbed at night. An operation gives the only hope of doing good.

Dr. L. McLane Tiffany was elected President for the next year, and 117 new members were added to the list.

The Cocktail Habit.—In an address before the Cambridge Temperance Association, a few weeks ago, Professor Humphry raised his voice against the habit of tippling or nipping—taking a glass now, a glass then, and a glass often; in the morning (which was worst of all), at the mid-day meal, in the afternoon, and in the evening. Even more than drunkenness, he said, this was terribly damaging to the system; it made men sodden, and was evinced in a general shakiness of the hand, sometimes of the step, and above all of the tongue—in fact, a general shakiness of all the organs. The "nippers" succumbed to slight accidents, slight illness, or slight shocks of any kind. Prick them, and the life, as it were, ran out of them. They said, "My work is hard," and they took the very means which unfitted them for good and prolonged work. By temperance in drink, he meant that nothing should be taken whatever, under any conditions, except at meals, and very little then. Those who could not be absolutely temperate, and content with moderation, should become total abstainers.—*British Medical Journal.*

AMERICAN PEDIATRIC SOCIETY.

Fourth Annual Meeting, held at Boston, Mass., May 2, 3, and 4, 1892.

THIRD DAY, WEDNESDAY, MAY 4TH.

(Continued from p. 556.)

Syphilitic Broncho-Stenosis in Children.—DR. OSLER, the President, announced the absence of Dr. I. N. Love, of St. Louis, and called on DR. A. SEIBERT, of New York, who read a short paper on the above subject, describing several cases observed by him and others. A short discussion by Drs. Caillé and Jackson followed.

A Case of Death from Laryngismus Stridulus in Incipient Rachitis.—DR. ADAMS, of Washington, D. C., read a paper on this subject. The discussion brought out several interesting points, *e.g.*, that the negro was more rachitic than the white man.

DR. BLACKADER asked how frequently laryngismus stridulus was met with in rachitic children in America, he furthermore adding that he had observed very few cases in Montreal.

DR. CAILLÉ stated that one cause observed by him was adenoid vegetations.

DR. SEIBERT said the probable cause of death in the case of Dr. Adams was due to enlarged thymus gland, as described in Professor A. Jacobi's work.

DR. A. JACOBI stated that rachitis was diagnosticated, but no cranio-tabes found, but he believed that out of fifty cases of laryngismus stridulus, forty nine were positively due to rachitis. He also believed that if the child had been rachitic from the beginning, that there might have been an œdema of brain, causing death. He questioned the existence of adenoid vegetations owing to absence of "snoring." He believed that in some cases of laryngismus stridulus the snoring must be looked for, and a dangerous cause may be the elongation of the tongue, and consequently its swallowing. He cited an interesting case of a child of Professor Gerhart, where death was caused by this, and where post-mortem examination showed the tongue to be lodged deeply in the throat, closing the larynx and causing thereby suffocation.

Sacro-coccygeal Tumor in a Child Three Weeks Old—Operation — Recovery, was demonstrated by DR. F. HUBER, of New York. It was proven to be a cystic growth, and the microscopical examination was made by Dr. Loudern, through courtesy of Dr. A. Jacobi.

Peroxide of Hydrogen.—DR. A. JACOBI, of New York, next read a note on this subject, describing the evil effects of same, and supplemented this statement by remarking that his attention was called to this by Dr. A. Caillé, of New York, who had attended a child with diphtheria and found that "peroxide" corroded the mucous membranes. Drs. A. Jacobi and A. Caillé finally agreed to discontinue its use, with benefit.

DR. BUSHINGHAM had used it in the Boston City Hospital with no evil results, but believed it might be purer, and hence not so corrosive as the kind used in New York.

DR. EARLE stated that he recently had seen an article in the Chicago *Tribune*, evidently by some un-informed writer, lauding peroxide of hydrogen as the great panacea for everything. He expected to have more patients as a result of this article.

DR. A. JACOBI closed the discussion.

Relation of Rheumatism and Chorea.—Discussion on this subject was arranged by the Council and participated in by Dr. C. W. Townsend, of Boston; Dr. F. M. Crandall, of New York City; and Dr. Samuel S. Adams, of Washington.

DR. ALLAN STARR, of New York, being unable to be present, sent a very interesting paper taking the neurological side of the question, and believing the neurotic element to be the main factor as the cause and requiring the treatment.

Next followed papers by Drs. Townsend, Crandall, and Adams, all very interesting.

DR. A. JACOBI opened the discussion, stating that he perfectly agreed with the views as expressed in Dr. Crandall's paper. He believed that rheumatism was not diagnosed as often as it should be, and that this was the cause that so many cases were overlooked during chorea. He believed, furthermore, that most cases of so-called "growing pains" were really rheumatism.

DR. L. EMMET HOLT believed in including as rheumatism all cases of endocarditis.

DR. HOOKER asked if the subcutaneous fibrous nodules were not found connected with rheumatism.

DR. LOUIS FISCHER, of New York, stated that a child presenting symptoms of chorea was attended by him two years ago, and after a few weeks' treatment with Fowler's solution, was discharged cured. This same child called last month with a second attack of chorea, and complained of pains in the joints. Careful examination of the heart could not detect any abnormality. There was no abnormal temperature. An examination of a drop of blood taken from the index-finger, with the necessary sterile precautions, showed numbers of micro-organisms resembling streptococci. These organisms disappeared entirely after ten days of treatment with Fowler's solution. A noteworthy fact was the simultaneous disappearance of pains in the joints and the micro-organisms from blood subsequently examined. This was intended, he said, as a preliminary report.

DR. OSLER closed the discussion, adding among other things that he had found rheumatism associated with about twenty per cent. of his cases of chorea.

AFTERNOON SESSION.

The Value of Milk Laboratories for the Advancement of our Knowledge of Artificial Feeding was the title of a paper read by DR. T. M. ROTCH, of Boston. A very scientific and careful investigation, showing, for example, the bacteriological examination of unsterilized milk to contain sixty-eight thousand colonies of bacteria. It was then shown by the author that milk need not be brought to the boiling-point, 212° F., in order to be properly sterilized, but that being heated to 167° F. was ample for feeding purposes, as the following will show:

Milk.—Sterilized at 212° F.; sterile as to bacteria. Sterilized twenty minutes at 167° F.; also sterile as to bacteria.

Modified Milk.—Sterilized at 212° F.; sterile as to bacteria. Sterilized twenty minutes at 167° F.; also sterile as to bacteria.

Above is a sterile food, and not cooked.

The discussion was continued by Dr. Hooker, and also by Dr. Koplik

DR. JACKSON had made considerable bacteriological examination of milk in Boston, and found it very pure.

DR. HOLT had been disappointed in using sterilized milk. It did not accomplish what was claimed. The difference in temperature being 167° F., as proposed by Dr. Rotch, and the admirable recipe should be well appreciated. In an article written in Keating's Encyclopedia he had referred to food recipes, that they should be prepared as carefully as drug recipes.

DR. BLACKADER believed that milk sterilized at 212° F. did not give that which we desired. He believed with the Arnold Sterilizer, that it took fifteen minutes to reach the temperature of 175° F., and believed that higher temperatures altered the character of the milk.

DR. A. JACOBI said that sterilization would never make human milk out of cow's milk. He believed the principles of feeding as laid down by him and followed all his life were as good as any other kind, sterilization or no sterilization. His boiled milk was really sterilized.

DR. ROTCH, ending the discussion, said the action of lime-water and sugar of milk seems to form a chemical combination at 212° F., which is not the case at 167° F. Milk at 167° F. was not sterilized, but Pasteurized.

A Simple Method for Clinical Examination of Breast-milk, was the title of a paper with demonstrations by Dr. L. Emmet Holt, of New York. He presented Professor Feser's lactoscope, and also showed Marchand's. Next followed a demonstration of a lactoscope devised by himself for examination of milk. The sample taken for examination should be from the middle of the nursing or when the breast has been about one-half emptied, as the first milk is always poorer and the last richer than the average. About half an ounce is required. The specific gravity should be taken at a temperature of from 65° to 72° F. By giving the stem of the lactometer a twirl as it is introduced it readily settles to the proper level, which may otherwise be prevented by the adhesion of the milk to the glass, especially in a rich specimen. The cylinder for cream test should be filled exactly to the top of the scale. After twenty-four hours the percentage of cream is read off, each degree in the scale being one per cent. A temperature ranging between 60° and 75° F. should be maintained. Note that the quantity of milk must be determined by other means; milk may be average in quality and very scanty.

Human Milk.

	Specific Gravity 70° F.	Cream—24 Hours.	Proteids.
Normal average	1.031	8 per cent.	1.5 per cent.
Healthy variations	1.028 to 1.029	9 to 12 per cent.	Normal (rich milk)
Healthy variations	1.032 to 1.033	5 to 6 per cent.	Normal (fair milk)
Unhealthy variations	Below 1.028	High (above 10 per cent.)	Normal or slightly below
Variations	Below 1.028	Normal (5 to 10 per cent.)	Low
Variations	Below 1.028	Low (below 5 per cent.)	Very low (very poor milk)
Variations	Above 1.033	High	Very high (very rich milk)
Variations	Above 1.033	Normal	High
Variations	Above 1.033	Low	Normal (or nearly so)

Milk presenting only moderate variations from the average, *e. g.*, sp. gr. 1.028, cream four per cent., or sp. gr., 1.033, cream ten per cent., can usually be modified by appropriate treatment. If, however, the sp. gr. is from 1.018 to 1.024, and cream only two per cent. to three per cent, it is hopeless.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, March 14, 1892.

Joseph D. Bryant, M.D., Chairman.

Epithelioma of the Lip.—Dr. W. E. Porter related three cases and presented two patients, illustrating operations for the removal of extensive cancer of the lower lip. The first case was that of a man, aged seventy-one, farmer. His grandfather had cancer of the cheek, removed by operation. His mother died of cancer of the breast at the age of fifty. A cousin died of cancer of the breast. He had never used a pipe nor irritated the lip in any way. No specific history. In August, 1890, he first noticed what he supposed was a small blister on the lower lip. Later a scab formed and increased in size, so that at the advice of friends he visited two quacks who applied plasters and pastes, with the result of hastening the growth. Considerable pain and some hemorrhage. On admission to the hospital a cauliflower growth was present, measuring five inches in length by three inches and a half in breadth, situated on the lower lip and extending beyond the angle of the mouth on both sides. The surface presented a foul, ulcerating area. Operation under ether, August 21, 1890. Vertical incision, some distance beyond the angle of the mouth, was made on either side, the two united by a transverse incision below the lower border of the inferior maxilla, the growth and adjacent portions of cheek and lower lip were dissected away. The only available space from which sufficient tissue could be obtained to fill in the large space remaining was from the upper portion of the cheeks. Repair was made after the method of Von Brüns. An incision was made on either side from a point about one-half an inch beyond the angle of the mouth upward and inward toward the nose, about three inches; then at right angles in an upward and outward direction two inches and a half. Then an incision was made downward parallel to the first. The flaps were dissected loose and turned down so as to form the lower lip. To form the vermilion border, strips of mucous membrane were dissected subsequently and attached by catgut. Silk sutures were used everywhere except for this purpose. The patient was discharged cured September 22, 1890. The lip presented a good appearance when shown; there had been no recurrence.

The second case occurred in a man, aged thirty-nine, admitted to the hospital January 13, 1892; family history negative. Three years ago he cut his lip with a chip, which left an irritating sore. This remained stationary about two years, but the third year increased very rapidly until it involved most of the lower lip. In this case Malgaigne's operation was performed, January 15th last, the growth being removed by two vertical incisions, extending down about an inch and a half from the angle of the mouth, and united by a third horizontal incision below the border of the tumor. Two parallel horizontal incisions were then made on either side and the flaps from the cheeks brought into place by the sliding method and secured by silk suture. The mucous membrane which had been removed at the same time was stitched in place with catgut. A large fold was left in the cheek above and without the angle of the mouth and another below the lower incision, both being remedied by removing a V-shaped piece of integument. The sutures were removed on the ninth day, and the patient was discharged February 10th. Good result.

The third case occurred in a man aged fifty-three, giving a family history of cancer. The operation in his case was similar to that in the second case, and was performed July 17, 1891, with good result.

Dr. Armstrong said he had operated in a few cases of epithelioma of the lip in the manner described by Dr. Porter. It was a good method. He inquired of Dr. Porter whether he had had any experience with pyoctanin.

Dr. Porter replied that he had used pyoctanin in some cases of cancer of the breast, the only result being that it had prevented so rapid ulcerative process.

Dr. Willy Meyer had in 1891 removed about the whole of the lower lip for epithelioma in one case, with good result, no recurrence yet.

The chairman said his experience in removal of the entire lower lip for epithelioma had been limited to two cases. The result had been good.

Fibrous Tumors of the Breast.—Dr. C. N. Dowd presented five specimens, removed by different operators, illustrating fibrous tumors of the female breast. Later he read a paper on this subject. In the case of the first specimen the breast had been enlarged about four years. An incision brought away a cyst the size of a pea, and removal of the one breast showed that it was a collection of like cysts and of fibrous tissue. The other breast was removed afterward and was found in a similar condition. In the case of the second specimen the enlargement of the breasts had been noticed only six months. On removal they were found to contain many cysts with an opaque fluid. The third specimen presented general induration throughout the breast and a few small cysts near the surface. It was a typical case of simple interstitial mastitis. The fourth specimen was very similar, but contained some abscesses with necrotic walls. The fifth specimen was a tumor of the scalp, which was presented to show that a fibrous tumor if allowed to remain might take on a malignant nature. The woman had several growths on the scalp for some years, and last summer

one became painful and was removed, and proved to have changed into an epithelioma. It reached down to the pericranium.

Multiple Tendon and Nerve Suture.—Dr. Lilienthal reported a case of this character which he made a basis of some remarks. It occurred in a boy four years of age whose right wrist was cut by a piece of glass. A dish-cloth had been wrapped about the wrist. Afterward a physician saw the case and tied the divided artery, and still later the boy was brought to the dispensary. He was told to report the next day, prepared for anæsthesia. They then found that most of the palmar tendons of the wrist, one of the arteries, and the nerves had been cut through. The central end of the median nerve was freshened, the distal end was not, while both ends of the ulnar nerve were freshened before uniting them. They were so small that it was necessary to pass the suture through the nerve, not alone through the sheath. Regarding the tendons, he could only make approximation of apparently corresponding parts. At the end of forty-eight hours it was necessary to redress the wound, and the result was that the nerve sutures held while the others did not and the tissues healed in one mass. There remained an absence of sensation over the distribution of the median and radial nerves, the hand was pale or blue and cold, the arm much wasted. A second operation was undertaken, he excised the scar, and an attempt was made to free the tendons, which was most successful with regard to the upper ones, while the deeper ones had to be left to themselves. The median nerve was also exposed, the ulnar was not. Primary union followed, and massage and Faradisation were patiently and persistently applied by Dr. Richards. Gradually sensation and motion returned, and to-day the hand and the several fingers were used about as freely as the unaffected member. Indeed the boy was still right-handed. The size of this hand was smaller than that of the left one.

The author gave a brief account of two similar cases treated successfully by Dr. Gerster. A comparison of the three cases emphasized the duty of the one first called to stop hemorrhage, enforce cleanliness, and overcome shock. His case showed that suturing of divided parts might prove successful, even where there was suppuration. It showed that one might be able to bring the distal end of a tendon into view by passive motion or "milking" the sheath. In transverse wounds, if an operation for restoring the parts had to be delayed, a longitudinal incision through skin and fascia might increase the efficiency of antiseptic measures. His case showed the value of Faradism and passive motion, but most reliance would have to be placed on voluntary motion when this became possible. He asked whether it was not possible that division of the nerves made suppuration or sepsis more likely.

Dr A. G. Gerster said that this was another case showing the error of the statement that secondary suture of divided tendons and nerves was without result. He had himself done the secondary operation in three cases, in all with a good result. A great deal depended upon the care and persistency of the after-treatment. By faradism and massage the tendon, held in a mass of granulation tissue, could finally be induced to free itself.

Dr. Benjamin Sachs said, that the case was very encouraging, and would lead neurologists to give a more favorable prognosis in severe nerve injuries, as to restoration of sensation, and also of motion, than they had been inclined to do. While some had once supposed that the electrical current made transmission of nerve power more easy, he thought it was to-day generally admitted that the benefit came only by causing exercise in a part which could not be exercised by the will.

The Chairman inquired of Dr. Sachs what answer he would give the question: Would division of a nerve render the parts more liable to sepsis?

Dr. Sachs replied that he had avoided that question purposely. On first thought, he could see no reason why the nerves should have any influence on the septic or aseptic condition.

Dr. B. F. Curtis spoke of the necessity for the one first seeing the case of thoroughly cleansing the wound, and of testing the function of the parts beyond the division to determine whether more energetic surgical measures would be necessary. While in the case related only the more superficial tendons were liberated at the secondary operation, he thought the irritating effect of the operation had probably caused absorption and thereby set free the deeper tendons as well. The youthfulness of the patient had been in his favor. The case was also interesting in showing that good results might follow passing the suture through the nerve itself where it could not be limited to the sheath. He had recently had a case illustrating the same point, although it was too early to speak of ultimate results. In incising a tendon-sheath let it be on its side rather than on top, so as to favor drainage, and that subsequently friction of the tendon should not be directly against the cicatrix.

Dr. Willy Meyer impressed the necessity of uniting like parts. In one of two cases under his care the functional result was good. In the second case the wound was aseptic and healthy at first, but the hip- and knee-joints became inflamed, then the wrist-wound took on suppuration and impaired the result. After many weeks the man left the hospital able to partially flex the fingers.

Dr. R. T. Morris thought separation of large nerves had nothing to do with suppuration. It was the sympathetic system which controlled the capillaries.

Dr. Reginald H. Sayre had more faith in electricity than Dr. Sachs seemed to have. He had used galvanism to involved parts, obtaining results which he attributed directly to the effect of the galvanism and not alone to the muscular gymnastics which it induced. Yet faradism would cause gymnastics, which the parts would not otherwise get.

The Chairman recalled the teaching of Alonzo Clark, that to-and-fro movements with friction would cause disappearance of adventitious tissue.

Dr. Richards said he had had another case besides the one reported by Dr. Lilienthal which forcibly illustrated the value of faradism and passive motion in restoring voluntary motion in injured parts. In the second case the patient, a workman in a brewery, was thinking of having the arm amputated, yet by the methods mentioned in the course of a year and a half he regained almost full use of it.

Intra-urethral Chancroid. — Dr. Ohmann-Dumesnil (*St. Louis Medical and Surgical Journal*, December, 1891), divides chancroid of the canal into, 1, those of the meatus; 2, urethral chancroid, and 3, intra-urethral chancroid. The first is not of infrequent occurrence. In the second variety we have a condition which to all appearances begins as a chancroid of the meatus, the infection proceeding into the urethra. In the third variety, of which a case is reported, we have a totally different state of affairs, and one, in the author's experience, which is rare. Here the sore is at some distance from the meatus and entirely unconnected with any other lesion. The pain on urination is intense, there is a constant pain at the point back of the corona, and a discharge which might be mistaken for a gonorrhœa. In the case reported it was supposed that the virus had been carried in by the nozzle of a syringe used for prophylactic injections.

Hypnotism has its greatest use, Dr. Collins says (*New England Medical Monthly*, April, 1892), in the various paralyses, hyperæstheses, contractures, spasms, convulsions, and other nervous ailments of non-demonstrable organic lesions. Supposed diseases, dread of diseases, disorders of digestion, and other functions will undoubtedly in many instances disappear under the influence of mental suggestion.

Correspondence.

FIBRIN FERMENT AS A STYPTIC—A CLAIM FOR PRIORITY.

To the Editor of the Medical Record.

Sir: While I realize that it is a little late to refer to an article which appeared more than two months since, I wish to call attention to an editorial commenting on an article by Dr. A. E. Wright, in the *British Medical Journal* of December 19, 1891. The comment referred to, headed "A New Styptic," appeared in the Medical Record of March 5, 1892. My apologies for this late reference are, that having never seen the article by Dr. Wright, and the comment thereon until to-day, I desire to enter a claim of priority, or at least of independent originality, in suggesting the use of fibrin ferment as a styptic and in employing it experimentally. In November, 1891, I suggested to the Professor of Physiology of the medical college in Nashville, Tenn., which I was then attending, and to the class through him, the possibility of the employment of the fibrin ferment as a styptic in hemorrhage, and particularly in hæmophilia, by injection near the bleeding-point or administration internally. Subsequently I tried the effects of the ferment, as obtained from fresh blood, on several of the smaller animals, though with negative results, until—following the suggestion of Arthurs and Pagès, that the coagulability of the blood depended largely on the amount or proportion of lime salts—the addition of a small percentage of a soluble calcium salt to the solution of the ferment in water (preferably the chloride, from its convenience and easy solubility) resulted in the formation of a styptic which is both efficient and free from the objections urged in case of those ordinarily employed. It acts in accordance with the principles which are efficient in the physiological process, and confines its effects wholly to the blood. While I have not yet determined the practicability of forming a solution of the fibrin ferment which could be kept available in case of emergency, when the hemorrhage is obstinate or long continued it could be obtained in comparatively short time from the blood of any animal, by coagulating the fibrin and macerating this in water. It has also occurred to me that this ferment, as well as pepsin, might be isolated without impairment of its efficiency. This I should like to suggest to the pharmaceutical chemists.

In a communication to *The Nashville Journal of Medicine and Surgery*, which was written in March but did not appear until the May issue, I again called attention to the employment of this means, although, as I was not then aware that it had been suggested by others, I made no reference thereto. I consider the matter of sufficient importance to desire the credit of a share at least in its introduction, and in view of the dates given, believe that I am entitled to a fair amount, in spite of my omitting to read the current literature until two months late.

I am yours very respectfully,

Robert C. Bicknell, M.D.

Murfreesboro, Tenn., May 7, 1892.

Tumenol, a newly-introduced substitute for ichthyol, has been found by Neisser to possess marked reducing properties, and, after two years' experience, he thinks it will prove of value in moist eczema, superficial ulcers, excoriations, etc.

Burned Flour as a Dry Dressing for Ill-conditioned Wounds, Erysipelas, etc.—Dr. J. J. Crow, of Carrollton, Ill, writes: "I have lately used common flour burned in a stove-pan as a dressing for erysipelas, senile gangrene, and burns, and am much pleased with it. It is almost everywhere present, and may be prepared in a few minutes. It is cheap and may be impregnated with iodoform, aristol, or other antiseptics. I hope the profession will give it a fair trial. It is, of course, finely divided charcoal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 14, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	16	2
Scarlet fever	225	26
Cerebro-spinal meningitis	3	7
Measles	758	36
Diphtheria	104	20
Small-pox	4	2
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Gelsemium as a Therapeutic Agent.—Dr. John Aulde, of Philadelphia, writes: "The true position of gelsemium in therapeutics is not so well known as it should be. Some physicians have been loath to employ it because it was claimed as the discovery of so-called 'Eclectics.' Even the writer of these lines has been accused of reading 'eclectic' literature because, forsooth, he had the temerity to recommend the remedy for the relief of 'a bad cold;' but he pleads 'not guilty.' Last winter he had the pleasure of forming the personal acquaintance of Dr. Joseph D. Mitchell, of Jacksonville, Fla., who communicated to him an interesting account of his efforts to bring gelsemium to the attention of the medical profession. He began to make the tincture on a large scale (a barrel at a time) about thirty-five years ago, the first consignment being sent to an extensive drug establishment in Boston, with whom he had dealings. Previous to that time it had been employed as a remedy, in the lower portion of Louisiana, in connection with Peruvian bark, in the treatment of fevers, and was believed to be a valuable drug for the reduction of fever A saturated tincture was made from the green roots, and, owing to some physicians using rather too large dosage, but little demand occurred, and the first barrel lasted five or six years. Later there was a demand for five or six barrels in the course of a year, and then its preparation passed into the hands of the drug trade, and Dr. Mitchell discontinued its manufacture. Gelsemium is a cerebro spinal sedative; it lowers blood-pressure, decreases the frequency and modifies favorably the character of the pulse in fevers, and thus favors re-establishment of the normal secretions. Unfortunately, physicians have gotten into the way of using this remedy in the form of the tincture, the dose being five to ten drops. The writer is of the opinion that alcoholic solutions of this strength should be avoided, because the alcohol is calculated to counteract the effect of the drug and mask the condition of the patient. It should be given preferably in the form of a tablet triturate made from an assayed product; in the absence of this, a solution in water of an assayed fluid extract can be used, by adding the water to a measured quantity of the drug. Small doses at short intervals produce the best results; in case five drops, given in divided doses in the course of five hours, do not produce some of the physiological effects of the drug, the preparation should be abandoned as worthless."

Post-Graduate Congress for German Army Surgeons.—An order has been issued establishing a course of lectures of three weeks' duration, to be delivered at the end of each semester in all the German universities for the benefit of the army surgeons. The object is to keep them thoroughly posted in all advances made in medicine and surgery, and for this reason attendance on one course each year is made obligatory upon every army surgeon.

Brains vs. Drugs.—I am sure at the present day we are too likely to forget that the highest position we can take is to cure people by advice rather than by drugs; to make the public pay for the use of our brains, and not for so many ounces of physic. Drugs have their own field, but they are our instruments only; of themselves they have no vitality, and a sound common sense—may I say a robust physiology?—has a larger mission even than they in the treatment of disease. There is a time to give drugs, and even to give them with a free hand, but there is equally a time when advice only is needed, and not physic—shall I stop there?—no, when to give drugs is quackery! Yes, there are times when to give medicine is to give poison, for it sends the poor patient on a hunt for health which no physic will procure, and it lets slip the opportunity.—DR. GOODHART.

Some Points in Hepatic Surgery.—The last meeting of the London Medical Society was devoted to hepatic surgery. Mr. Knowsley Thornton read a paper in which he gave particulars of five cases of cholecystotomy. He maintained that a properly-conducted exploratory incision was free from risk and might give valuable information, even when no stone was found. Dietetic and medicinal treatment ought, however, to be thoroughly tried first. The ducts were as completely within the sphere of surgical treatment as the gall bladder itself. Stones of moderate size impacted in the duct were better treated by kneading and crushing between the finger and thumb, or by forceps pressure; larger stones by incision, complete removal, and after-suture of the duct-wall. In cases in which *débris* was left in the duct the gall-bladder should be opened, sutured into the abdominal incision, and drained. Where the ducts were incised and sutured a drainage-tube should be passed into the peritoneum beside the sutured duct, and the gall-bladder also drained externally. In a well-marked case of repeated attacks of gall-stone colic, with recurring distention of the gall-bladder, it was better to operate early, and before there was a chance of injury to the duct-wall by impaction, and before the stone had reached the common duct. Such cases recovered rapidly, and there was every prospect that experience would show that complete intraperitoneal suture of the wound of the gall-bladder would be safe, and would become the rule when operation preceded damage of the ducts by impaction.

Dr. Douglas Powell congratulated Mr. Thornton on his powers of diagnosing even small stones by palpation, but did not agree with him that the gall-bladder was a receptacle for fluid accumulated in order to flush the ducts periodically. Dr. Ralfe urged the advantages of delaying before operating. Dr. Bristowe quoted cases in which there had been all the symptoms of gall-stones without any being present; also a case in which, at a post-mortem where they expected to find gall-stones, careful palpation failed to find any, but when the dissection was carried a stage farther, one was found impacted in the duct. Mr. Marmaduke Sheild spoke of the value of a preliminary thorough purgation. Mr. Keetley mentioned the case of a man who had had twenty attacks of hepatic colic, yet laparotomy failed to reveal a calculus, though the operation was curiously followed by recovery. The President (Mr. Hutchinson) protested against the view that gall-stones were things which, when found, ought necessarily to be removed; the indication for operative interference was the pain to which they gave rise. Mr. Thornton pointed out in reply, that he had stipulated that operation was only to be resorted to after other means had failed, and when the symptoms were severe; some cases recovered without operation, but others for want of it went on to rupture of the gall-bladder or gangrene of the duct, with immediately fatal results.

Influenza and Small-pox in England.—From the Registrar-General's Annual Summary, just issued, it appears that in London, during 1891, there were 2,336 deaths primarily due to influenza, and nearly two thousand of these occurred in May and June. The epidemic has now almost disappeared, but small-pox is slightly on the increase.

The Famine and Typhus in Russia.—A Russian physician writes to the *British Medical Journal* that the situation in Russia, appalling as it has been for some months past, continues to grow even worse from day to day. As has been prophesied by many Russian medical men long ago, in many of the famine-stricken regions there broke out formidable epidemics of typhus, typhoid, and recurrent fever (as well as of small-pox, diphtheria, scarlatina, measles, etc.), to spread ever farther and farther. At present the pestilence (especially typhus and typhoid) are raging in the following governments: Kazan, Perm, Simbirsk, Samara, Saratov, Ufa, Orenburg, Odessa, Kharkov, Tambov, Lublin, Suwalki. There can be scarcely any doubt that the advent of the spring season will cause a further aggravation of the epidemics. The *zemsky* (country councils) doctors do their utmost in their truly heroic struggle both with starvation and disease; but, most unfortunately, the financial means at their disposition are exceedingly small, and thus all their efforts and self-sacrifice remain useless. The Imperial Government, with their dishonest and ignorant officials, are absolutely incapable of rendering any effective and rational aid. Count L. N. Tolstoï utilizes the funds at disposal only in the Riazan Government, which is suffering comparatively to a much smaller extent. In November, 1891, Professor V. A. Manasseïn opened in the *Vratch* a special subscription list, all sums received being immediately sent directly to the medical men of the famine stricken *zemstvos* for the distribution of food, etc. Up to the present, however, the sums collected in that way, and contributed mostly by the members of the medical profession, have been utterly trifling.

So-called "Spontaneous Combustion."—Under this title Dr. Hartwell records a curious experience which he had recently. He was one day hastily summoned into the woods while visiting a case in the outskirts of the town in Massachusetts where he lives, the messenger announcing that her mother was burned alive. On reaching the place indicated a human body was found in an actual state of conflagration. The body was face downward and resting on the forearms, the upper part of chest, and the left knee. The rest of it was raised and held from the ground by the rigidity of the muscles of the parts. It was burning at the shoulder, on both sides of the abdomen, and on both legs. As Dr. Hartwell reached the spot the bones of the right leg broke with an audible snap, allowing the foot to hang by the muscles and tendons. The right shoulder-joint was exposed, and the intestines protruded through the burnt abdomen. The unburned clothing consisted of parts of a calico dress, a cotton vest, woollen skirt, and thick red woollen under garment. Apparently the woman—for it was a woman, forty-nine years of age, active in her habits and strictly temperate—had been burning stumps, and her clothing had become ignited. Dr. Hartwell's view is that the flesh—in a condition of unusual combustibility—had then caught fire, and had been able of itself to support combustion, and this is all that he means by so-called spontaneous combustion, viz., an undue liability of the flesh to actually burn. His view as to this condition is that it depends upon the fact that human bodies occasionally do possess this increased combustibility by reason of an unusual deposition of fat, and that age and spirit-drinking are factors, in that they aid in the accumulation of fat. The interest of the case which he records he claims to lie in the fact that it occurred in a person of middle life, by no means obese, and not addicted to alcoholic indulgence.—*The Lancet*, March 5, 1892.

Woman Dentists in Russia.—Since the opening of the School of Dentistry in St. Petersburg 135 women have matriculated, while the male students number only 84.

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ON THE PRESENT STATE OF TREATMENT OF THE CHRONIC DISEASES OF THE SPINAL CORD, ESPECIALLY OF TABES AND NEURASTHENIA.[1]

By LEONARD WEBER, M.D.,

NEW YORK.

Up to the end of the first half of this century our knowledge of the pathology of the cord was quite defective, and, consequently, there could be no rational treatment of its diseases; but during the last thirty years the advance made in special pathology, in diagnostic differentiation and early recognition of disease of the cord has been surprisingly great. Though the art of healing has by no means increased in direct proportion to our better understanding of the pathological conditions, it can yet be said that the prognosis of a number of diseases of the cord is better now than it has been. Not that we have found any particularly great and reliable remedies for the management of these diseases, but we often recognize a disease and have learned to apply such remedies as we have at a time when the morbid condition is still amenable to treatment. By a more careful study of the etiology of those diseases, as for instance the relation of syphilis to tabes, our therapeutics have also been helped. For the recognition of the early beginnings of chronic diseases of the cord intimate acquaintance with their symptomatology, as well as with the methods of accurate diagnostic inquiry into neuro-pathological conditions is requisite; and, even if the practitioner have sufficient skill for the above purpose, unless he has also opportunities for accumulating experience he will be embarrassed by the abundance of remedies and methods of cure in selecting that which might prove the most useful in the case before him. Now, in deliberating upon the prognosis of any case of chronic disease of the cord, it will be our first object to distinguish between functional and organic disease, the first dependent upon impalpable, the latter on structural changes. In a series of disorders, in spinal neurasthenia before all, in some cases of concussion of the spine, of hysterical paresis and toxic paralysis, palpable tissue-changes are generally not demonstrable. The molecular alterations are here presumably quite variable in a given series of cases, yet they may come to complete restoration many times, but not unfrequently they persist with great obstinacy, particularly in neurasthenia gravis, and in some cases structural changes may take place in course of time. In fact, time was when we looked upon spinal neurasthenia as a generally benign disorder which would readily yield to electricity and hydro-therapeutics or the expurgation of uric acid from the system. I have seen quite a number of neurasthenias of the sexual variety, who have gone through the rounds of careful treatment year after year, here and abroad, but have neither been cured nor much improved. And here are two of them without syphilitic or other taint in their history, who, after five and more years of careful observation and treatment under the best possible surroundings, now show decided symptoms of disease of the cord.

Case I.—A gentleman, aged forty-five, a man of large affairs and great powers of mental application, an indefatigable worker, but withal a man who knew how to live and take care of himself, showed the first signs of cerebro-spinal neurasthenia with sexual weakness when he was thirty-nine. After searching examination I could exclude the presence of organic disease, and diagnose the case as one of neurasthenia gravis. A proper regimen and treatment was ordered and followed strictly by the patient for about a year, when he went abroad. The above diagnosis was confirmed by authorities in France and Germany, and the treatment, with complete rest and absence of all care, continued abroad for more than two years. He is back these two years and under my constant observation. His impotency is complete, though there are no rectal nor vesical, paræsthetic, or paretic symptoms, but there are no cremaster reflexes now, one patellar tendon reflex almost obliterated, the other much diminished, his muscular powers of lower extremities considerably weakened, a short walk even producing great fatigue, and unpleasant sensations in the territory of both sciatic nerves.

Case II.—An unmarried man, aged forty, healthy and vigorous at twenty, sexual excesses from twenty-one to twenty-six; many gonorrhœas; deep-seated stricture; cystitis; frequent nocturnal emissions, reducing his health and strength until he was finally cured of his genito-urinary disorders. From his thirtieth to thirty-fifth year treated for lithæmia and neurasthenia, and a favorable prognosis given. But for the last three years he presents unmistakable symptoms of disease of the cord, apparently limited as yet to the lumbar enlargement. In this, as in many other cases of spinal neurasthenia associated with lithæmic symptoms, it is the irritable weakness of the nervous system with its deficient innervating power that becomes responsible for the lithæmic state of the system, as pointed out already by Beard in his work on sexual neurasthenia.

While I do not deny the possibility of lithæmia causing nerve troubles, increased experience has cautioned me to admit the supposed frequency of the latter. In considering the possible success of any form of treatment of spinal disease it is important to inquire how much nerve-tissue has been already destroyed, and what might yet be preserved, restored, or regenerated. H. Müller, Brown-Séquard, Flourens, Naunyn, Eichhorst, and others have seen nerve-fibres regenerated after lesions in animals, much more readily in younger than older ones. No one has yet demonstrated the regeneration of ganglionic cells so far as I am aware. These experiments agree pretty well with the clinical observations in man, in whom lesions of the cord made both by trauma and disease can be adjusted more or less, according to the extent of the injury or disease and the recuperative powers of the individual. However unsatisfactory the prospects of a restitutio ad integrum of diseased nerve-tissues may be, there is this important point of clinical observation, that the nerve fibres as well as ganglionic cells can undergo considerable alterations without entirely losing their physiological functions. By the preservation of the axis-cylinder alone of a nerve-fibre its functional activity will be maintained, and a ganglionic cell may be reduced to a fraction of its normal circumference, and still do its motory or trophic work well enough. This has been demonstrated by Adamkiewicz (*Wien. Med. Presse*, 1883, No. 9, etc.) in an interesting case of tumor of the left half of the lower part of the cervical portion of the cord, which had compressed the ganglionic cells to about one-thirtieth of their normal cir-

[1] Read before the New York Neurological Society, April 5, 1892.

cumference without producing any great disturbance during life.

Whatever may be possible in the way of reduction of proliferated neuroglia of the cord and its vessels must take place before this substance has been transformed into that fine fibrous fibrillary tissue, as it is seen in longitudinal wavy fascicles in the well developed cases of posterior sclerosis, and other forms of chronic myelitis. Some years ago while at Berlin, Professor Adamkiewicz kindly showed me his superb collection of microscopical specimens of cross and oblique sections of the cord, taken from various cases of typical tabes, etc. I had occasion then to observe the masses of thick and wavy connective tissue which had taken the place of former substance of the cord along the various systems of fibres posteriorly, and often affecting the gray matter also. To study and acknowledge such changes, and still hope for —shall I say some wonderful retrograde metamorphosis by the application of any heroic remedies, such as violent hydro-therapeutics or nerve stretching or suspension, seems very unwise indeed.

Simple anomalies of circulation, such as anæmia and hyperæmia of the cord, do undoubtedly get well, though even they have an awkward way of obstinacy, as every practitioner may observe in the not infrequent cases of neurasthenia or spinal irritation in men and women from various exhausting influences. Molecular changes, which probably underlie all functional disorders, are also capable of being adjusted; but here I must raise another point which interferes somewhat with prognosis and treatment. We can by no means identify the clinical beginning of a spinal disease with that of the anatomical changes, inasmuch as some of the latter may exist without interfering with or destroying the functional activity of the nervous elements. This point, well understood in the pathology of these diseases, has been brought forward in its important bearings on the treatment by L. Löwenfeld in a special treatise on this subject, published in 1888.

Most of the chronic diseases associated with structural alterations of the cord begin probably with molecular changes of the nervous elements only, leading to anatomical lesions in the course of time. The sooner proper treatment is instituted the better the hope of final restoration of the affected parts, and our daily clinical experience will show that what has just been said is not theoretical assumption. It would be a grave error to apply half-way measures or indifferent or so-called expectant treatment in these cases, in the belief that there will be plenty of time for energetic treatment. Dilatory inactivity, however useful it may often be in diseases of other organs, will here deprive the patient of the brief chance he has of being cured or improved. At the same time I do not wish to create the impression that in the advanced cases of chronic disease all therapeutic measures must be futile. We not infrequently succeed in bringing the pathological process to a standstill, to improvement, and even, though rarely, to a complete restoration of functions, *i.e.*, a cure in the clinical sense of the word. Such comparative success has been noted particularly in compression-myelitis, polio-myelitis anterior, spinal syphilis, and tabes. I know of a few cases of tabes of very long standing, where for the last eight or ten years the patients have had judiciously applied hydropathic and electric treatment, excellent care and advantageous changes of climate, and the disease has not progressed. In order to understand the possibility of such results we must know that close by the severely injured nerve-fibres of the affected portion of the cord there are always others less hurt or as yet only molecularly changed which are capable of restoration. By bringing the latter back to functional activity and strengthening the intact ones, the work of those that have been destroyed or grossly injured may be taken up by other nervous elements and functional disorders readjusted.

In the treatment of chronic structural diseases of the cord, tabes in particular, there are three methods of procedure which constitute our main reliance and which we put to use singly or in combination, according to the special indications of the case.

1. **Chemicals.**—For the last twenty years considerable sifting has been done in the multitude of remedies recommended, and we may safely say that we have positively reduced them to three, *i.e.*, nitrate of silver, mercury, and iodide of potassium. A number of well known observers have employed and still use nitrate of silver in cases of tabes. In the first case of typical tabes I had to treat, in 1870, I prescribed it in the following way: A gentleman, retired merchant, who did not deny having had syphilis when he was about twenty-five, had locomotor ataxia when he was sixty. The disease had been of about ten years' duration. I first prescribed specific treatment for him, because I noticed some slight cutaneous eruptions and well-marked dactylitis of one of his fingers, which, from the man's history, I thought must be syphilitic. To be sure, I have seen similar affections since in cases of tabes without any syphilitic history at all. The specific treatment being ineffectual, I put the patient on arg. nitr., gr. v.; argill. alb., 3 j.; aqua dest., q. s. f. pil. 40. S.: A pill t. i d. The number of pills was increased until he had come up to one-half grain of the salt t. i. d., when he was ordered to stop for a week or two and then begin again. I kept the patient under the influeuce of the remedy for about eighteen months. It gave him neither bronzed skin nor albuminuria, but had no appreciable effect upon the progress of the disease, the patient finally dying at the age of sixty-five with the additional symptoms of cerebral progressive paralysis.

Somewhat better success I saw of the same remedy in the case of a horse-dealer who came under my treatment at the age of thirty-eight for tabes, mainly confined to the lumbar enlargement. Ataxia well marked but sexual potency retained. After taking the remedy for about a year he looked better, felt better, walked better and suffered less from paræsthesias and lancinating pains than before. At that stage of the treatment a somewhat strange complication arose, in so far as the patient contracted syphilis, for which I treated him for about another year, and then lost sight of him. I know he is dead, but whether he died of tabes or syphilis, or both, or some intercurrent disease, I cannot tell.

Allan McLane Hamilton, of this city, in 1881 also recommended the silver salts, and some others have tried hypodermic injections of acetate of silver, but the latter seems to me a procedure not particularly commendable in patients of that class, as they generally have a pretty vulnerable skin. As to the use of iodide of potassium and mercury in tabes I should like to state that, after studying the question since Fournier's and Erb's publications as impartially as I could (I refer here also to my paper on tabes and syphilis read before the Academy of Medicine, and published in the MEDICAL RECORD, April 5, 1884), and learning all I could from the extensive observations of my friends Brandis and George Meyer, in Aachen, Germany, both of whom enjoy unusual opportunities of seeing the various forms of disease of the nervous system in connection with syphilis, I certainly believe we are justified in treating a case of tabes with a syphilitic history by specific remedies. But the results of such treatment are often not as good as they might be; in general, they are the better the shorter the interval between the first infection and the appearance of spinal symptoms, and the less there is of other causes besides syphilis, and the sooner the case is submitted to treatment. The longer the space of time between syphilitic infection and the outbreak of spinal disease, the longer the duration and progress of the latter, the less is to be expected from a course of specific treatment. In all cases of the kind it will be well to combine hydro- and electro-theraphy with the specific remedies in order to increase the chances of success.

Professor Rumpf, in Marburg, whose book on "Syphilis of the Nervous System" contains a mine of accurate

observations, and ought to be in the hands of everyone interested in this subject, has had some surprisingly good results in some tabetic cases, which had been of long standing, by combined methods of treatment. With reference to the mode of action of specific remedies in spinal syphilis, we may assume that they destroy or render innocuous what is left of syphilitic virus in the system, or that they induce a retrogressive metamorphosis in the alterations of vessels, neuroglia, and meninges, but it will always be well to keep in mind what I mentioned above, that what is really gone of nerve-fibre cannot be restored. And, furthermore, it is possible not only, but pretty certain that, by a thorough course of mercurial treatment in more or less advanced cases of posterior sclerosis the progress of the disease may be advanced, and functional adjustment impeded. The iodide of potash is extensively used in chronic spinal meningitis and meningo myelitis, and often does good service here, but still more in disease of the cord of syphilitic origin, where numerous observers have reported favorable results. Personally, I have been better satisfied with the combination of mercury and iodide of potassium, *i.e.*, daily inunctions of half a drachm and more of the gray ointment, and fifteen grains of the iodide two or three times a day. In the paper cited above, I stated that the results I have had from the careful use of mercurial inunctions in over a hundred cases of syphilis that have been under my control in private practice for many years, have been quite satisfactory; I have stuck to this mode of treatment since that time, and seen no cause for change. Of cases of cerebro-spinal syphilis it has not been my fortune to see and follow up more than a dozen or so, and I have given every one of them mercury and the iodide. Half of them are dead of paralysis or intercurrent disease, three I believe have been cured and have remained so, three others or a few more have been lost sight of. We know that the authorities are not yet agreed upon the importance of the rôle which syphilis plays in the etiology of tabes, and we are not yet able to pass judgment on the therapeutic value of the specific treatment of the disease, but we are also aware that some of the best men, like Erb, Fournier, Rumpf, Eisenlohr, Benedict, Reumont, Gowers, Schulz, Hammond, Strümpell, and others have reported favorable results and even a few cures, and, believers or unbelievers as we may be, we prescribe the iodide anyway as soon as we have reason to believe in the syphilitic history of a case. Of symptomatic remedies as are useful and often necessary to control lancinating pains, paræsthesias, cramps, and *crises spinales*, antipyrin and antifebrin have proved a blessing, and taken the place of the opiates to a considerable extent. Giving first the antipyrin by itself, I have lately followed Löwenfeld's plan and ordered antipyrin, gr. xii., antifebrin, gr. iv., m. f. pulv., such powder to be taken three or four times in twenty-four hours. With phenacetin my experience is limited in that direction; it does not appear to be as prompt as the former. There are some physicians who order their patients to be rubbed with aromatic spirits and other gently irritating lotions. Most of us think nothing of it, but I do not know if we do not go a little too far in our doubt. Gentle irritation of the cutaneous nerves might by reflex stimulate the cord and favorably influence its nutrition relatively as well as it can be done by the faradic brush or certain hydropathic procedures.

II. Electro-therapeutics.—No other remedy has been and is applied as much as electricity in chronic diseases of the cord. From the crude way of its former use to the present rational modes of its application, great progress has undoubtedly been made, but the reports as to the curative powers of electricity are not only contradictory, but it appears to me also that the number of observers who are losing faith in its value is increasing. As late as two years ago, one of the best experts abroad in this matter, an accomplished physician and director of a large sanatorium for chronic nervous diseases, said to me that he could not boast of any curative results in locomotor ataxia, or even neurasthenia gravis, by electricity. Nevertheless, inasmuch as it can, when properly applied, relieve symptoms, and by its stimulating and tonic effects benefit the patient, he was not prepared to abandon its use. Judging from a discussion of this subject in the New York Academy of Medicine two years ago, that followed a paper read by our esteemed confrère Dr. Starr, and from more recent publications, the above opinion coincides with the experience of the majority of specialists here. The constant current directly applied takes precedence over all other methods. The electrodes employed now are generally flat, rectangular, muslin-covered, of various sizes—3 by 6 ctm. for children, 5 by 10 ctm. for adults, are the average sizes. The current is passed transversely or longitudinally through the spine; the former method appears to be more in vogue in circumscribed, the latter in system, disease of the cord. In the longitudinal application one pole is held steadily on the neck, while the other, put over the lumbar region, is gradually moved upward, resting twenty to thirty seconds on each successive place. Some authors maintain that the direction given to the current is irrelevant, nevertheless, the general rule is to apply the ascending current (+ pole below, — above) in more recent cases where there is presumably hyperæmic condition of the cord, and the descending current (+ pole above and — below) in older cases without symptoms of irritation of posterior roots. At the transverse (horizontal) application the anode only may be applied over the spine. M. Meyer, of Berlin, and particularly Erb, advise also to apply the cathode beneath the lower angle of the jaw, sliding with the anode slowly down the opposite side of the spinal column close to the spinous processes. The object in this mode of application is to galvanize the cervical sympathetic as well as the cord. I have practised it frequently. Weak currents only should be used, as stronger ones are apt to produce vertigo and a sense of fulness in the head.

Next to the strength of the current, the density in its application is of importance, and calculations of the dosage can be made according to C. W. Müller's formula, which is not a matter within the scope of this communication. This much, however, is important to note, that much weaker currents generally are applied now than in former times, and the single *séance* also reduced to about five minutes for the entire cord, and about three minutes to portion thereof. No one with any experience in giving electricity would be without a reliable galvanometer nowadays, as neither the patient's sensations nor the measuring of the strength of the current by the number of elements used are of any practical value in fixing the dosage. As to the application of the induced current in chronic disease of the cord, I am acquainted only with Rumpf's method, the application of the faradic brush. It is done in this way, that one electrode is applied over the sternum, and with the other holding the metallic brush, various places of the back and affected extremities are touched and reddened several times. Rumpf begins always with the back, thence going to the extremities, and repeating the process once; a *séance* lasting for about ten minutes. By this form of treatment, stimulating ganglionic centres by reflex and perhaps improving nutrition by vaso motor influence, he reports to have had good results in some cases of tabes, though in many of them he had also occasion to prescribe antisyphilitic remedies. I have used his method in combination with galvanization in some cases, and been pleased with the results obtained. Of the good effects to be had by electric baths and static electricity in those diseases, a great deal has been said, but the hopes entertained in that direction have not been fulfilled.

III. Hydro-therapeutics.—In the external employment of water we have an important element in the treatment of chronic diseases of the cord, as well as in many other acute and chronic disorders. A generation ago hydropathic institutes and the like were frequently in the hands of empirics, who in their crude way of applying water on

general principles, either too cold or too hot, did more harm than good. If the action of this great and useful thermal stimulus on the nervous system is not yet properly understood, we have certainly learned by experience, in the last twenty years, a better method of its application, for we now know that high as well as low temperatures are to be avoided. Patients are treated at home or in special institutes with plain water, though they may also take natural or artificial salt-water baths, mud, or sulphur baths. Sea and river bathing, Turkish and Russian baths, have done more harm than good, and are now generally avoided. The methods in hydropathic institutes and in thermal watering-places have come to be alike, inasmuch as the cold bath, the cold douche, cold rub have been discarded, and been substituted by the cool and tepid baths from 90° F. down to 72° F., and the results of treatment are better now than they have been. For at least ten years I have followed what I believe to be the late Dr. Runge's method in cases of tabes, which consists in putting the patient in a tepid half-bath of about 85° F. for five minutes, and pouring a pailful or two of water of 75° to 80° F. gently over his back and shoulders before he leaves the tub. This may be done daily or every other day, and I know of no other plan by which I had better, or even as good, temporary or permanent relief; and it deserves to be recommended. Runge claimed to have cured some cases of tabes in this way. I have not been so fortunate, but have certainly seen marked improvement in some cases. The natural salt-water spring baths contain from two per cent. to three per cent. salt; for the artificial bath of that kind, from five to six pounds of salt to an ordinary bath-tub full of water is generally used. The patients now are kept in the tepid baths for five minutes, in the cooler baths for three minutes, generally. In various watering-places I have seen patients kept in longer, up to ten and fifteen minutes. Sulphur baths are especially recommended in spinal disease of specific origin, but nobody believes now that they could be of much benefit by themselves in such cases, but they may assist the action of antisyphilitic remedies. In sending patients with more or less advanced spinal disease, to a watering-place, it is well to remember that they do not bear well long and fatiguing journeys, and that a sojourn there of four or six weeks, embracing the usual number of twenty-four baths, does not promise much success. To obtain a fair and lasting result the patient must be prepared to stay two or three months, and longer if required, and he ought to be informed of that before he sets out on his journey.

IV. Revulsive and Mechanical Treatment.—Though the three modes of treatment we have reviewed, applied singly or combined, are those which are now relied upon in the treatment of these diseases, there are some other more or less heroic measures of which we have read, which we have tried, and with which we have failed to effect cures. There is the treatment by revulsion from the playful *points de feu* and the comparatively innocent moxæ to the burning of broad, deep stripes along both sides of the spine, which, until the last few decades, was recommended by high authorities as the best thing in chronic diseases of the cord, and practised by many physicians in many countries. Most of us here have applied the *points de feu* with the Pacquelin, some of us very much so, but I doubt if more than moderately stimulating effects and passing psychical impressions have been produced thereby. I remember two cases of fully developed locomotor ataxia which I saw in one of the wards of a German University hospital, in 1879, that had deep and destructive stripes burned into the integument alongside the spine, about four weeks before they were shown to me. The house-surgeon maintained that the ataxic gait and other symptoms were much improved at the time of my visit, in comparison to what they were before

Of diseases suitable to the revulsive treatment, those caused by spondylitis must be mentioned first, and Charcot, and recently Althaus, have reported cases in which paraplegia was relieved after applying the ferrum candens over the affected portion of the spine. Again, the various forms of meningitis, particularly pachymeningitis, also chronic transverse myelitis, may be treated in that way. Surgical stretching of the sciatic nerve was much practised for a time after the reports of wonderful success that Langenbuch claimed to have had with it. Though in a certain number of cases some improvement undoubtedly followed, it has not been lasting, and not a single case has been cured, but many have been made rather worse, and the method has now been abandoned.

In 1883 the Russian physician, Motschutkowsky began treating tabes by stretching the body by suspension, and reported on fifteen cases thus treated, of which thirteen showed diminution of fulgurating pains, paræsthesias, and ataxia, and increase of muscular power, but the two other cases got worse after suspension. Many observers here and abroad have followed this plan, but their success has been far from encouraging.

M. Granville, in 1882, recommended nerve-vibration in certain spinal disease, to be done by a "percuteur" set in motion by machinery. This procedure, as well as hypnotism tried by Bernheim, may be of value in functional disease of the cord and nerves, but a sufficient number of reports have not been published as yet of its effectiveness to justify conclusions.

It will be remembered by those who read German medical literature, that in 1889 a letter was published by a well-known German authority, which spoke of the relatively great success that a Mr. Hessing had by putting certain orthopedic apparatus on tabic patients which were to act somewhat in the manner of Motschutkowsky's suspension, but in a permanent way and with less danger and severity. While abroad in the spring of 1890, I went and saw Mr. Hessing's famous Orthopedic Institute at Goeggingen, a suburb of Augsburg, in Bavaria. I found an immense establishment, beautifully arranged in various buildings, in gardens with concert hall and theatre for the entertainment of his numerous patients, elegant restaurant, etc., the like of which I had not seen before. Mr. Hessing, the proprietor and director of all, received me kindly, and allowed me to stay and examine and talk as I pleased with such tabic patients as were then under treatment. Mr Hessing's views of the pathology of locomotor ataxia are peculiar. He conceived the idea that most cases start with disease of the osseous and ligamentous structures of the spine, affecting meninges and cord later on, in some cases perhaps at one and the same time. To be sure, on the basis of such theory, it was but natural for him, the eminent and successful orthopedist that he is, to believe that such apparatus as would support the patient's spine and provide for extension at the same time, ought also to go far in curing the spinal disease. His apparatus, similar in principle to the old-fashioned one for Pott's disease, but of improved construction, rests on the patient's hips, and reaching well up under the armpit, allows as much extension as the patient can bear. A jury-mast with head-piece is provided also and used when necessary. Hessing orders the machine to be worn day and night, if in any way possible, and the patients submit as well as they may, though many of them complained much of pain and numbness in hands and fingers, with occasional slight œdematous swelling of the same, caused by the strong pressure of the arm and supports upon extension. Hessing said to me, "I have had thus far about sixty ataxic patients in all stages under treatment, and am well pleased with my results as to local and general improvement. But as to curing these unfortunate people, that will be very hard by any mode of treatment, for it seems to me that many of them have diseased brains also, and I find it next to impossible to carry out my plan of treatment as I should like to." These remarks show that Hessing was far from satisfied with his final results, and my suspicions in this direction were also confirmed by the statement of one of the patients present, who said that he had been with Hessing more or less

steadily for two years, but had seen no one cured, and himself, though improved as to general nutrition and some of his paræsthesias, was as ataxic as the day he came.

General Management.—It is obvious that the patient's mode of life ought to be regulated. His diet must be sustaining and proper, and stimulants be used sparingly. Rapid changes of temperature affect him badly, and a sojourn in a southern climate in winter is always indicated, where it can be done. Inasmuch as the muscles can only remain in a fair state of nutrition by motion, the patient must take a certain amount of exercise, if he is capable of doing so; if not, massage applied gently and correctly may take its place. Rest in bed for several weeks or months has done a great deal of good in some cases of spastic paralysis and initial tabes. Sexual intercourse must be always restricted, and interdicted in some cases.

Treatment of Neurasthenia Spinalis.—With the consideration of the treatment of spinal neurasthenia, formerly spinal irritation, I will conclude this paper, inasmuch as other functional disorders of the cord generally undergo similar treatment. For the lighter forms, such as are observed in young people in consequence of sexual aberrations to a moderate degree, or in the state of convalescence from various acute disorders, the removal of cause, regulation of mode of life, mild tonics, combined with varying doses of bromides or other sedatives, the use of the steel sound or the Winternitz psychrophor where there is much urethral or prostatic irritation, a three or four weeks' course of mild galvanic current to the spine, the cold sponge-bath, or other suitable hydriatic procedures, will generally be found sufficient to effect a cure. When it can be done, a sojourn in the country and the use of cold baths of short duration is often advisable.

Not so positive are the results of treatment of neurasthenia gravis, as it may develop, particularly in persons with a neurotic history, after protracted influences of an exhausting kind, such as years of mental or physical overexertion, sexual excesses, and prolonged and frequent masturbation at the age of puberty. Here the entire central nervous system is often disturbed. It is true that the life of the individual is not put in great jeopardy by the vicious habit of masturbation, but is often made very miserable, inasmuch as his capacity both for work and reasonable enjoyment are very much diminished. Even in neurasthenia the molecular changes in the nerve-centres may be such that, after the removal of the causes and by applying all proper treatment, functional readjustment may not be accomplished, as I have shown by one or two cases, when speaking of the pathological features of our subject, in the beginning of this paper. Here also the various modes of application of electricity, cold-water or thermal baths, massage, moderate exercise, sojourn at the sea or in the uplands, are indicated in pretty much the same way as in cases of incipient tabes, but have to be adapted to the individual requirements of the case. While of drugs, iron, arsenic, and other tonics are often useful, the bromides, as sedatives, and antipyrin or phenacetin, as antineuralgics, are often required, we find no indication here for nitrate of silver.

Whatever progress we have made in the treatment of spinal diseases, it has not been due so much to the light furnished by the study of their etiology as by clinical observation and practical experience. Let us hope that as time goes on we may find some remedies more valuable than those we have at present.

25 West Forty-Sixth Street.

Ovid's Recipe for Wrinkles.—Take equal parts of bean and barley meal and mix with raw egg. When the mass is thoroughly hard and dry it should be ground to a fine powder and made into an ointment with melted tallow and honey. A thick layer of this applied to the face every night was warranted to smooth out all wrinkles and make the skin as soft as a baby's.

MICROSCOPICAL STUDIES IN PELVIC PERITONITIS.[1]

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Probably no disease is more frequently met with by gynecologists than pelvic peritonitis, and few have been more carefully studied as to causes, symptoms, treatment, sequelæ, etc.

From a clinical stand-point, I have long been convinced, as I said in an article published in the Pittsburg *Medical Review*, October, 1889, that in plastic peritonitis, when the tubes and ovaries are bound in with pseudo-membrane, as also in purulent peritonitis, when there are larger or smaller abscesses, in connection with, and as a result of, disease of the tubes and ovaries, the only way of permanent cure is by removal of the diseased structures.[2]

To find if possible a better way, and to learn more of the nature of the disease or pathology of the conditions, I have for months past been making, with the microscope, researches in the morbid changes, the minute anatomical features of pelvic peritonitis, and now present the results of my investigations. I am not aware that anyone has before studied the subject microscopically.

To secure definite results in the microscopical examination of any tissue, the first necessity is a proper preparation. After working for more than fifteen years in microscopy, I am convinced that the best method is: First, harden the specimens in one-half of one per cent. of chromic acid, which gives a distinctness that cannot be secured by any other preparative fluid; then, after thin sections are made, mount in chemically pure glycerine, and not, as is the usual way, in Canada balsam, which so clears up the specimen that it cannot be satisfactorily studied with high powers of the microscope; while specimens mounted in pure glycerine, after previous hardening in chromic acid, are fit for the finest definition by the highest powers of the microscope.

The almost universal method of mounting in Canada balsam has probably put back the progress of pathological investigations more than twenty years. Recently some microscopical slides were sent me from a well-known university. They were beautifully mounted, but done in Canada balsam, and I could scarcely recognize my old friends, endothelioma and gyroma; and certainly from specimens so prepared I could never have defined and learned the peculiar changes characteristic of these two diseases.

In this article I will give, first, a description of the normal peritoneum as I have studied it microscopically, and note certain anatomical facts which seem to have escaped the attention of previous observers; second, the pathology of inflammation; third, describe the morbid changes of peritonitis in the various constituent parts of the peritoneum, viz., endothelium, connective tissue, blood-vessels, and smooth muscles; and fourth, the etiology of peritonitis.

The peritoneum is a connective-tissue formation, closely attached to the organs of the abdominal cavity, most of which are entirely, others partially, covered by it. The free surface of the peritoneum is covered with a layer of so-called endothelium (Fig. 1).

Endothelia are polyhedral, nucleated, protoplasmic bodies of greatly varying sizes, and separated from each other by a narrow, light ledge of cement substance. They are claimed to be connective-tissue formations by German and English histologists. The distinction between endothelia and epithelia is artificial and lacks logic and consequence. They are similar in structure and functions, and appear alike under the microscope. At the fimbriated extremity of the tubes they unite and are contin-

[1] Pursued in Dr. Charles Heitzman's laboratory.

[2] William Duncan says, in the British Medical Journal: "Nothing short of abdominal section will cure. The old method of treating dilated tubes by tapping per vaginam, or by electricity, is not only unscientific, but more dangerous than abdominal section." Doran, in the same journal, says: "Abdominal section is more satisfactory, and even safer, than palliative measures."

uous; also in the liver the epithelia join the endothelia of the capillaries, and are in direct connection with them. Waldeyer has shown the covering layer of the ovary to be true epithelium, which he traces to the embryonal development of the germinal epithelia.

Nitrate of silver renders the cement substance of both endo- and epithelia dark brown. These dark brown lines, if viewed under high powers, appear dotted and interrupted, the light interruptions corresponding to delicate thorny projections of the protoplasmic bodies, traversing the cement substance, and known as thorns or

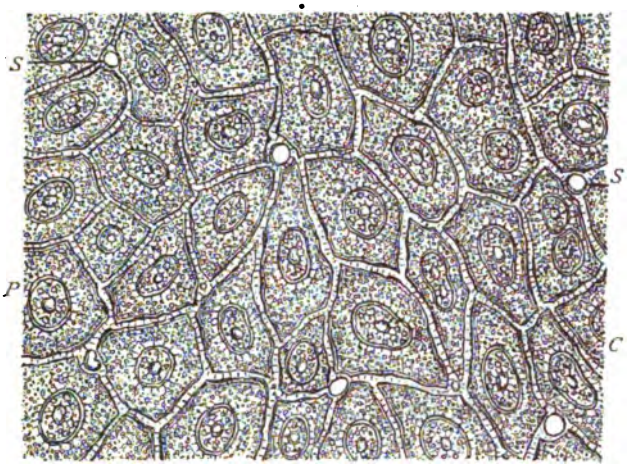

FIG. 1.—Normal Endothelium of the Peritoneum Covering the Tube. (× 1,000. Front view.) *P*, polyhedral nucleated protoplasmic bodies; *C*, cement substance, traversed by delicate spokes; *S S*, stomata.

"prickles" for the last thirty years. They are a continuation of the reticulum of living matter within the epi- and endothelia, and represent the inter-communicating links between the single epi- or endothelia.

The fine net-work of living matter in each endo- and epithelium gives to the little formations their wonderful vital properties. These apparently shapeless masses of protoplasm perform some of the most vital physiological functions. All gland structures are formed of epithelia, and every secretion is elaborated by them. Each epithelium is a laboratory in itself, selecting and combining with marvellous skill.

In the kidneys they make a most complex structure, working with the same exact precision. In the bronchial tubes the millions of moving cilia do their ceaseless work, and so help in the great function of respiration. Similar epithelia carry safely the embryo of the future being through the Fallopian tubes. In the ventricles of the brain, and in the central canal of the spinal cord they have an equally useful purpose. Equally marvellous is the work of the endothelia lining the blood-vessels, or the millions which cover the vast peritoneal membrane.

We notice in the cement substance, at some of the intersections of the endothelia, openings or rings, as shown in Fig. 1. The stomata or stigmata are the open mouths of the lymphatics, since the whole peritoneal cavity is regarded by some as a lymphatic sac.

Beneath the endothelia of normal peritoneum is the layer of fibrous connective tissue, which is divided into two portions. The one nearest to the endothelia is made up of more delicate fibres, and abounds in capillary blood-vessels, whereas the deep layers are built up of coarse bundles, and hold arteries, veins, and capillaries, but a scantier supply than the upper layers. In the peritoneum of the broad ligament are found many smooth muscles from the ligamentum teres, which is largely composed of smooth muscle-fibres, and blends with the connective tissue of the various organs of the peritoneum.

Inflammation.—Pathologists have held varied and opposing views as to what *inflammation* is, and what are the minute anatomical changes in the morbid process. For twenty-five years the theory of Cohnheim, that inflammation is an emigration of colorless blood-corpuscles, has been generally accepted, and is still maintained by many of the best pathologists, though it has been repeatedly disapproved. Cohnheim held that inflammatory corpuscles were an aggregation of emigrated white corpuscles, and that the tissue took no part in the inflammatory process.

It is true that the most intense inflammation is near the blood vessels, the source of nutrition, and consequently there we always find the greater number of inflammatory corpuscles or protoplasmic masses. But does it therefore follow that these masses of living matter, many of which are considerably larger than the calibre of the vessels, have emigrated from the vessels?

We frequently find nests of inflammatory corpuscles where muscles or other tissues have broken down, and yet there are no blood-vessels in the immediate proximity. Even if these masses were emigrated leucocytes, could these emigrated leucocytes break down the tissues? As I have studied inflammation with high powers of the microscope I could never recognize inflammatory corpuscles as extravasated leucocytes. The most conclusive proof of the incorrectness of Cohnheim's theory is seeing the blood-vessels themselves breaking down into inflammatory corpuscles.

Inflammation, by the humeral pathologists, was also regarded as a disturbance of the vascular system. Rokitansky held that inflammation was a disease of the blood, that inflammatory and pus corpuscles originated from the exuded plasma, and this exudate became organized and produced pseudo-membranes, or hyperplasia of inflamed tissues. Virchow recognized that some tissues, such as cornea and cartilage, though devoid of blood-vessels, were often the seat of inflammation, hence he asserted that the blood vessels took but little part in the inflammatory process, but that the latter essentially consisted in division and subdivision or proliferation of the stable or fixed cells of the connective tissue, from which originated pseudo-membranes, hyperplasia, and pus. But even Virchow's theory does not explain or account for the presence of the multitude of new elements in an inflamed tissue, which could not result simply from a division and subdivision of the cells.

Attention has recently been called to the complex changes of the nuclear stroma, leading to a division of the nucleus, which changes are called indirect division by Karyokinesis, or Karyomitosis (Klein). This theory confirms at least that the cells multiply and assume varied forms, and it has induced many German pathologists practically to abandon the theory of emigration, and to return to the original views of Virchow.

If we study the inflammatory process under the microscope, we can see clearly that the tissue itself breaks down into protoplasm, that there is an increase of living matter, and some of the coarse granules form homogeneous lumps, or large masses of protoplasm, from which are developed inflammatory corpuscles.

I have watched these changes in various tissues, repeatedly seen them in the peritoneal membrane, traced the increase of living matter, the multiplication of tissue elements, and the formation of the inflammatory corpuscles. This increase of living matter is a natural consequence of the larger supply of blood, corresponding to the familiar and clinical description of "redness and swelling."

These newly formed protoplasmic masses or inflammatory corpuscles, when examined under one thousand or twelve hundred power, show a fine reticulum, and we also see they are interconnected by thorny projections or delicate conical offshoots through the cement substance.

As early as 1873, Dr. Charles Heitzman showed that the basis substances of connective tissue are endowed with life, the same as the protoplasmic bodies themselves. When from some irritation there is a liquefaction of the solid parts of the basis substance, and the protoplasm therein is set free, there will also be in this protoplasm an increase of living matter, just the same as in the epi-

or endothelia, or in the original protoplasm of the so-called "cells." The protoplasm sprung from the "cells" and that from the basis substance is the same, and both alike develop into inflammatory corpuscles. If the latter remain interconnected, they gradually become spindle-shaped, and by a reformation of basis substance new connective tissue is produced. This constitutes "plastic" or "formative" inflammation. If, on the contrary, the connections or offshoots between the protoplasmic masses is broken, then inflammatory corpuscles become pus corpuscles, and suppuration commences, resulting in destruction of tissue. Pus is not tissue, and cannot produce tissue.[1]

Professor Stricker, of Vienna, originally held that all inflammatory corpuscles were pus corpuscles, and that inflammation and ulceration were identical. Every day clinical experience shows that only a limited number of inflammatory processes is suppurative; the greater majority are plastic and lead to an augmentation of the tissue involved. Since 1880 Professor Stricker has sustained the views as taught by Dr. Heitzman, that in so-called plastic or formative inflammation the newly formed inflammatory elements remain interconnected, thus being able to produce new tissue by a reformation of the basis substance; while if the connection is broken between the inflammatory corpuscles, they become pus corpuscles.

Recognizing these facts, which are borne out in the whole history of inflammation, the formation of pus corpuscles, and the difference between pus corpuscles and inflammatory corpuscles becomes clear, simple, and comprehensive.

In studying peritonitis we see repeatedly the formation of protoplasm, the increase of living matter, the change to inflammatory corpuscles, the fine reticulum, the thorny projections between, or connecting links, and how, if the inflammatory corpuscles remain interconnected, they become spindle-shaped, and by a new formation of basis substance new tissue or pseudo-membranes are formed, which latter, if the inflammatory action continues, will increase and bind more firmly together neighboring organs in the peritoneal cavity. On the contrary, if the life connection between the living matter or inflammatory corpuscles is broken, they become pus corpuscles, abscesses are formed, or general suppuration commences, leading to more or less destruction of tissue.

Inflammatory Changes of the Endothelia.—"Cornil and Ranvier were the first who maintained that in inflammation the endothelia are enlarged, and their nuclei divide and become the source from which pus corpuscles are formed."

"The inflammatory changes of the endothelia of the peritoneum (omentum) has been studied more accurately by H. Kundrat (*Medic. Jahrbücher*, 1872). He notices, first, a disappearance of the cement substances, in place of which scattered globular bodies were seen. Next, enlargement of the nucleoli and the nuclei of the endothelia followed. In recent peritonitis he found large multinuclear bodies, which greatly surpassed in size single endothelia, and in purulent peritonitis a marked new formation of inflammatory corpuscles, but probably not all of these offshoots are the offspring of endothelia. Kundrat was the first to maintain that from the endothelia of the peritoneum, in chronic plastic peritonitis, connective tissue arises which leads to the formation of vegetations, and that this process takes place in two ways: either the endothelia themselves become spindle-shaped, elongated, transformed into fibrillæ, or large nucleated protoplasmic layers, sprung from the endothelia, become directly fibrillated."[2]

[1] Hamilton, in his work on Pathology, says: "Suppuration is the separation from the organism by a natural process of death and degeneration of such inflammatory products as have accumulated within it." Senn, in his Principles of Surgery, says: "In suppurative inflammation of a serous membrane the leucocytes and embryonal cells are transformed into pus corpuscles, and in this way purulent peritonitis is produced."

[2] Heitzman: Microscopical Morphology, p. 420.

In the mildest cases of peritonitis the inflammatory changes of the endothelia are the following (Fig. 2):

First, the cement substance, in consequence of some irritation, becomes liquefied. The endothelia are reduced to protoplasm; they become coarsely granular; there is an increase of living matter; the nuclei are enlarged and become more numerous, and the thorny formations of living matter of the cement substance are increased in size.

Many of the granules in the protoplasm of the endothelia unite and form homogeneous lumps; some of the enlarged endothelia fuse together and form multinuclear protoplasmic bodies, in which new lines of demarcation become visible, leading to the formation of inflammatory corpuscles. If all the granules and lumps of living matter and newly formed nuclei or inflammatory corpuscles remain interconnected by delicate offshoots, the result will be plastic peritonitis.

The endothelia are not, as Kundrat supposed, directly transformed into spindle-shaped bodies. They always split up into inflammatory corpuscles before a new formation of spindles takes place. As long as the layer of cement substance envelops the free surface of the endothelia, no agglutination can take place between contiguous peritoneal layers. The basis substance is first liquefied and sets free the living matter; then there is a multiplication and division of this living matter, inflammatory corpuscles are formed, they become spindle-shaped, and then, by a formation of the basis substance, new tissues or pseudo-membranes are developed, which cause the agglutination of neighboring organs.

In suppurative peritonitis the living matter in the endothelia increases and divides and changes into inflammatory corpuscles, then the life connection between the inflammatory corpuscles is broken, they become pus corpuscles, and suppuration begins. Plastic peritonitis may be in one portion of the peritoneum, while suppurative peritonitis is progressing in another.

FIG. 2.—Acute Pelvic Peritonitis of Moderate Intensity. (× 500.) *E E*, endothelial layer; *F*, fibrous connective tissue; *C*, capillary blood-vessel.

The Inflammatory Changes of the Endothelia Lining the Blood-vessels are exactly the same as in the endothelia covering the peritoneum. They become enlarged, coarsely granular, their nuclei augment and become in-

creased in numbers. Sometimes the swelling of the endothelia of the blood-vessels, especially of the capillaries, causes a complete choking of the calibres. The capillaries are solidified and converted into solid tracts of fibrous connective-tissue. This enlargement of the endothelia by new formations of living matter, which afterward change to fibrous connective tissue, is the cause of endarteritis obliterans, leading to a narrowing of the calibre or a complete closure of the vessels. We often see in newly formed or inflamed tissue a new formation of blood vessels, sometimes a complete vascularization, especially in pseudo-membranes of recent date.

The epithelia covering the ovaries act in the same way under irritation, and are subject to similar changes, first becoming coarsely granular, the living matter increasing,

FIG. 3.—Intense Acute Peritonitis of the Broad Ligament. (× 1,000.) *M*, transverse sections of smooth muscle-fibres, showing inflammatory changes; *S S*, bundles of fibrous connective tissue, broken up into spindle-shaped inflammatory corpuscles; *O*, œdema, serous exudate between the bundles; *P*, protoplasmic bodies, suspended in the serous exudate; *C*, capillary blood-vessel, showing inflammatory changes of the endothelia.

the nuclei dividing, a number of epithelia fusing together into multinuclear lumps, and then developing into inflammatory corpuscles. The latter, if the connection continues, form a new tissue, or pseudo-membranes, as mentioned above.

Inflammatory Changes of the Fibrous Connective Tissue.—In inflammation of this tissue the basis substance is first liquefied or melted out, and the bundles are transformed into more or less extensive fields of granular protoplasm, as seen in Fig. 2. The fibrous connective tissue immediately adjacent to the endothelia is almost entirely broken down into granular matter, while in the lower portion of the peritoneum there may be little change.

In more advanced stages of inflammation the original bundles of the fibrous connective tissue are reduced to spindle-shaped bodies, similar to those from which fibrous connective tissue has arisen in the early stages of its development (Fig. 3).

We see coarsely granular and nucleated spindles grouped together and retaining the original forms of the bundles. Between the groups are interstices of varying diameter, filled with coagulated albumin, or albuminous fluid, forming œdema. The spindles constituting the original bundles remain interconnected. In the œdematous interstices are protoplasmic bodies, which probably have taken origin from emigration through the walls of the capillaries.

In the third and most intense form of inflammation the bundles are transformed into chains of homogeneous, highly glistening bodies, which result from a rapid increase of living matter, held within the bundles after the preceding liquefaction of the basis substance. (See Fig. 4.)

Such solid lumps are most numerous at the points of most intense inflammation. The more intense the morbid process, the greater the change of the tissues. Sometimes whole bundles are transformed into coarsely granular protoplasm, retaining their original size and shape, or breaking up into homogeneous lumps of living matter.

The free protoplasm between the bundles of fibrous connective tissue is the first to become changed into coarsely granular, freely nucleated masses, as in Fig 2. These clusters are seen especially in the deeper portions of the peritoneum, where there is comparatively a slight although progressive inflammatory process present. In the severest forms of peritonitis the difference between the inflammatory corpuscles sprung from free protoplasm and those from the previous bundles disappear, and the whole tissue is in a condition known to pathologists as inflammatory infiltration.

Examining these inflammatory corpuscles, derived from the fibrous connective tissue, with high powers, we see in them the same fine reticulum, and the corpuscles interconnected and connecting with the surrounding protoplasm by fine, delicate offshoots. This beautiful net-work of living matter, which we find in every part and

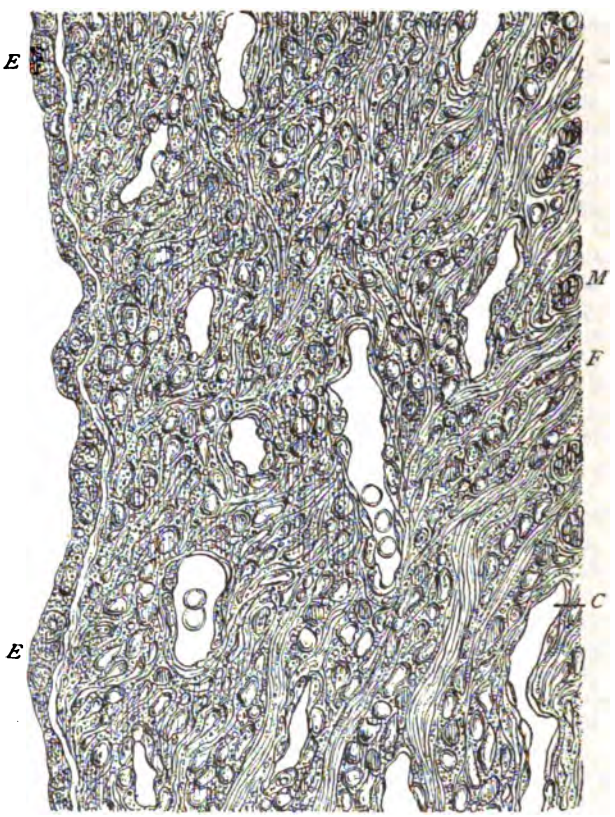

FIG. 4.—Intense Acute Tubal Peritonitis. (× 500.) *E E*, endothelial layer; *F*, fibrous connective tissue; *M*, smooth muscle-fibres in transverse section; *C*, capillary blood-vessel.

in every organ, proves that the body is one complete whole, and not made up of independent "cells." It explains, too, that mysterious life-power, that inter-dependence and sympathy by which one function follows another in such transcendent order.

When, from any cause, this connection between the inflammatory corpuscles is destroyed, as probably by certain microbes, the inflammatory corpuscles become pus corpuscles, and suppuration is established.

If, on the contrary, inflammatory corpuscles remain interconnected, they, after subsidence of irritation, become spindle-shaped, and, by reformation of the basis substance, form a new tissue; thus pseudo-membranes will be developed, and there will be a thickening or a hyperplasia of the peritoneum. This hyperplasia of the cellular tissue of the peritoneum, resulting from repeated attacks of inflammation, has been recognized as "cellulitis" or parametritis. Professor William Polk, in an article published in the MEDICAL RECORD, September 18, 1886, says: "Inflammatory masses under the headings of pelvic cellulitis and peritonitis are the results of salpingitis plus peritonitis."

A writer in the *Boston Medical and Surgical Journal* of July 9, 1891, gives an article on laparotomy, as he stated, verifying the diagnosis of "pelvic cellulitis." He says: "I found the tubes and ovaries in gross appearance healthy. I performed laparotomy, removing the tubes and ovaries of each side. Since the operation, six months ago, the patient has gained very much in general health and is free from pelvic disturbance of pain and discomfort." Evidently the patient had pyosalpinx, which caused the peritonitis and consequent adhesions.

In over eighty laparotomies I have never yet been able to find a mass of inflamed pelvic cellular tissue independent of the hyperplasia of the peritoneum, or the inflammatory adhesions around inflamed structures or diseased uterine appendages. With hand in pelvic cavity, I have searched repeatedly and carefully, yet have never been able to recognize an independent mass to be denominated "cellulitis."

Dr. T. G. Thomas, on December 21, 1882, when he reported his first four cases of the removal of uterine appendages, said, in referring to an article by Lawson Tait, published in the *British Medical Journal*, July 29, 1882, that "it was one of the most valuable contributions to gynecological science made during the present decade," and added: "How often has it been found that, after a long course of treatment of the uterus, including all the mechanical devices and operative procedures that the most skilful gynecologist could devise, the condition of the patient remains substantially the same, and has finally to be abandoned as incurable."

Many physicians can verify that cases of so-called "cellulitis" have been treated for years without a cure being effected, while in other instances, if the cause of irritation or the source of infection be removed, the patient will in a short time be restored to health. As Dr. Grigg, President of the British Gynecological Society, in his opening address, said: "These methods have shed lustre upon gynecology as a curative art, and done much to raise it to a position approximating that of an exact science."

Inflammatory Changes in the Muscles.—Peritonitis presents an excellent opportunity for studying the inflammatory changes of smooth muscle fibres, especially in the broad ligament, or in tubal peritonitis; in the latter, we almost invariably find the muscle wall of the tube more or less invaded.

The first change in muscle fibres is that the nucleus becomes granular, divides, and there is an increase of living matter. Next, the whole muscle fibre is enlarged and reduced to protoplasm, the coarse granules arranging themselves in rows, representing inflammatory corpuscles; the small amount of cement substance between the muscle fibres dissolves, and gradually the boundary lines between the spindles disappear and the whole bundle is reduced to inflammatory corpuscles.

It is interesting to watch these progressive changes, the clearly lined muscle fibres, filled with protoplasmic masses, and ready to split into lumps. Sometimes the whole inflammatory process or destruction of muscles is clearly seen or illustrated in acute oöphoritis. In this we frequently find extended fields of intense acute inflammation, the muscle fibres disappearing or breaking up into granular matter or inflammatory corpuscles, some fibres filled with coarse granules or melting into or partly lost in large lumps of living matter; while the remains of muscle fibres scattered here and there remind one of broken pieces of plank on a wide expanse of waters.

Amid the sea of inflammatory corpuscles may occasionally be seen a bright, shining hæmatoblast—a mass of living matter, taking up the hæmoglobin from the blood, on its way to forming red blood-corpuscles. In such intense inflammation a few newly formed red blood-corpuscles are always found, and near by are frequently seen the solid or vacuoled tracts of living matter, marking out the already forming blood-vessels; while in other fields may be seen new blood-vessels winding along gracefully, showing that even in intense inflammation nature is making plans for repair. These may be the future blood-vessels of the new tissue that will grow out of the protoplasmic mass, if the connections of living matter are not destroyed. Muscle fibres when once destroyed can no more be renewed or formed again. They are lost forever. Fibrous connective tissue, being always the tissue of repair, takes its place, thus causing more or less cirrhosis. Frequently, in case of chronic or sub-acute oöphoritis, large portions of the ovary are replaced by a growth of fibrous connective tissue. An ovary so changed can no longer perform its normal functions, and must to some extent be a source of distress. In like manner the muscle fibres of the Fallopian tubes may be replaced by fibrous connective tissue, the mucosa altered, the epithelia gone, and the once highly organized structure loses its fine organization, and is no longer capable of performing its full physiological functions.

Durante and others studied the muscle changes in endarteritis, and it was shown that muscle spindles break up into rows of inflammatory corpuscles, which afterward change to fibrous connective tissue.

In inflammation the smooth muscle fibres are transformed into highly glistening lumps of living matter, appearing either homogeneous or with a varying number of vacuoles. Many of these muscle spindles coalesce into large masses of living matter after liquefaction of the intervening basis substance. In transverse sections of these muscles we meet with multinuclear protoplasmic bodies which have originated from fused muscle spindles. (See Fig. 3.) These multinuclear heaps break into inflammatory corpuscles, which closely resemble those arisen from previous connective tissue.

In milder forms of myositis the inflammatory changes are confined to, or principally take place in, the delicate fibrous connective tissue, between the groups of smooth muscle fibres. A limited number of muscle fibres may be broken up into inflammatory corpuscles, and these, with the corpuscles sprung from the connective tissue, may remain interconnected, and as in plastic peritonitis, will lead to the augmentation of the interstitial connective tissue. This process also is seen in certain forms of oöphoritis, when the cortex of the ovary will show a considerable increase of fibrous connective tissue, and a diminution of the muscle fibres.

In interstitial salpingitis we often find the most intense form of myositis. Almost all of the muscle fibres may become inflamed, and be transformed into embryonal and medullary matter, sometimes not a vestige of the original muscle fibres can be found.

Plastic Peritonitis.—Inflammatory corpuscles sprung from previous fibrous connective tissue, endothelia, or epithelia, or smooth muscle fibres, remain, as a rule, interconnected by means of delicate offshoots traversing the light interspaces between the inflammatory corpuscles. While this intercommunication remains undisturbed, the inflammatory process is termed "formative" or "plastic." After the subsidence of the inflammation the newly formed inflammatory corpuscles proceed to the formation of new tissues. The inflammatory corpuscles become first elongated, afterward spindle-shaped, and by a reformation of the basis substance develop new connec-

tive tissues or pseudo-membranes. In patients who have suffered from tubal disease, and have had in consequence repeated attacks of peritonitis, frequently the uterus or uterine appendages, or both, are not only firmly bound down but almost buried in a mass of strong, well-organized pseudo-membranes. Such conditions necessarily produce much suffering, and must shorten life.

Pseudo-membranes, when examined under high powers of the microscope, are of exceeding interest (Fig. 5).

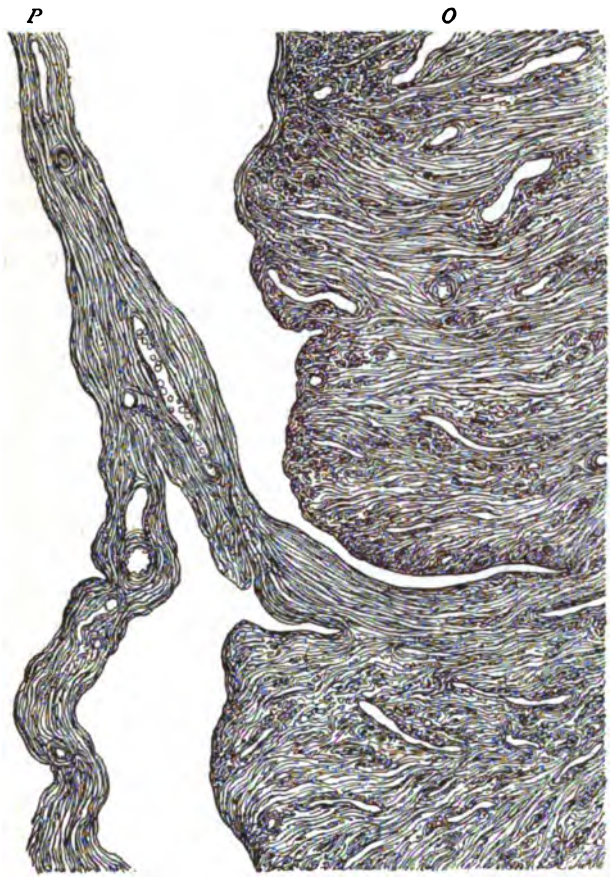

FIG. 5.—Peritoneal Pseudo-membranes. (× 50.) *P*, cord-like pseudo-membrane, with arteries, veins, and capillaries; *O*, dense fibrous connective tissue on the surface of the ovary, the result of plastic oöphoritis.

I have chosen for illustration pseudo-membranes originated from the surface of an ovary in a mild process of acute peritonitis. The ovary in this case was transformed into a blood cyst, and buried in all directions in dense adhesions, which obviously had resulted from repeated attacks of peritonitis. The septic matter from the tubes had probably caused not only the peritonitis but also the disease of the ovaries. Nearly all of the normal structure of the ovary was destroyed by the inflammatory process. The outcome of peritonitis, combined with superficial oöphoritis, was in this case a transformation of the outermost layer of the cortex into dense fibrous connective tissue abundantly supplied with blood-vessels, and but scanty vestiges of previous muscle fibres could be seen.

The covering epithelium of the ovary, as stated above, behaves in inflammation exactly like the endothelia of the peritoneum. The surface of the ovary is frequently found with papillary projections, giving to the naked eye an opaque velvety appearance. These projections are the outcome of mild attacks of peritonitis, superficial portions of the ovarian structure having changed to fibrous connective tissue.

The pseudo-membranes are made up of coarse bundles of fibrous connective tissue slightly interlacing. (See Fig. 6.) In any specimen we will see longitudinal as well as transverse and oblique sections of bundles. Between them we will find a varying amount of protoplasmic bodies, the more numerous when the pseudo-membranes are of recent date. Embedded in this tissue are a varying number of blood-vessels, arteries, arterioles, veins, and capillaries. Most of the blood-vessels are newly formed. The arterioles are characterized by the presence of a single layer of smooth muscle fibres in the middle coat. Their endothelial layer is, as a rule, pronounced and somewhat irregular. The capillaries, when newly formed, have large, irregular endothelia. In old pseudo-membranes the newly formed blood-vessels have assumed all of the features characteristic of normal ones. Often in pseudo-membranes are found amyloid or colloid corpuscles of a peculiar high power of refraction and a pronounced concentric stratification.

The newly organized connective tissues, or pseudo-membranes, were called by the humeral pathologists "exudates," and according to their views the exudates arose from the dilated blood-vessels of so-called serous membranes, which became organized and produced pseudo-membranes or adhesions, hence the term of plastic exudates is still in use by pathologists and clinicians. This view was successfully contradicted some forty years ago by Virchow.[1] We have seen clearly that the pseudo-membranes are formed by changes of living matter. They are not exudates from dilated blood-vessels, but are firmly and densely organized fibres of connective tissue, and which can hardly be absorbed by blisters on the external skin.

Frequently we find in the pseudo-membranes fields of acute inflammation. A large extent of surface may be

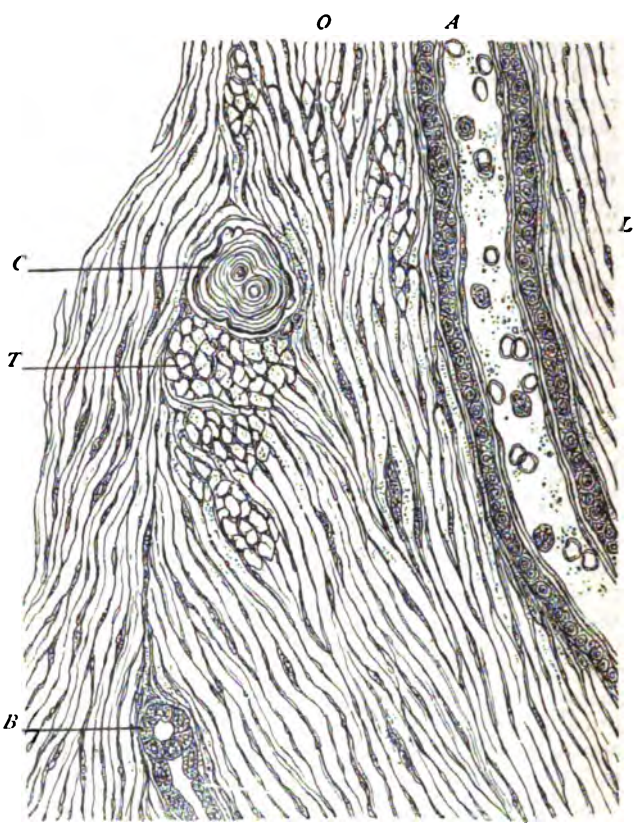

FIG. 6.—Peritoneal Pseudo-membrane. (× 500.) *L*, longitudinal bundles of fibrous connective tissue; *T*, transverse bundles of fibrous connective tissue; *O*, oblique bundles of fibrous connective tissue; *C*, amyloid corpuscle; *A*, artery; *B*, capillary blood-vessel.

thus invaded, or even the whole mass filled with inflammatory corpuscles. Such inflammatory attacks cause the increase of old pseudo-membranes and increased hyperplasia of the peritoneum.

In the pseudo-membranes are also frequently found foci of suppuration or miliary abscesses, as seen in Fig. 7.

Do not these suggest the possible danger of leaving

[1] A late text-book says: "The pathology of pelvic peritonitis is, first, sub-serous congestion, followed by an exudation of plastic material or the higher organized constituents of the blood. Small blisters applied to the iliac region, and repeated, favor the absorption of the inflammatory products" (Skene).

pseudo-membranes, either after removing organs or when simply separating the adhesions and allowing the organs to remain *in situ?* These foci of suppuration necessarily become sources of great peril. Besides, if organs are sufficiently diseased to produce such dense

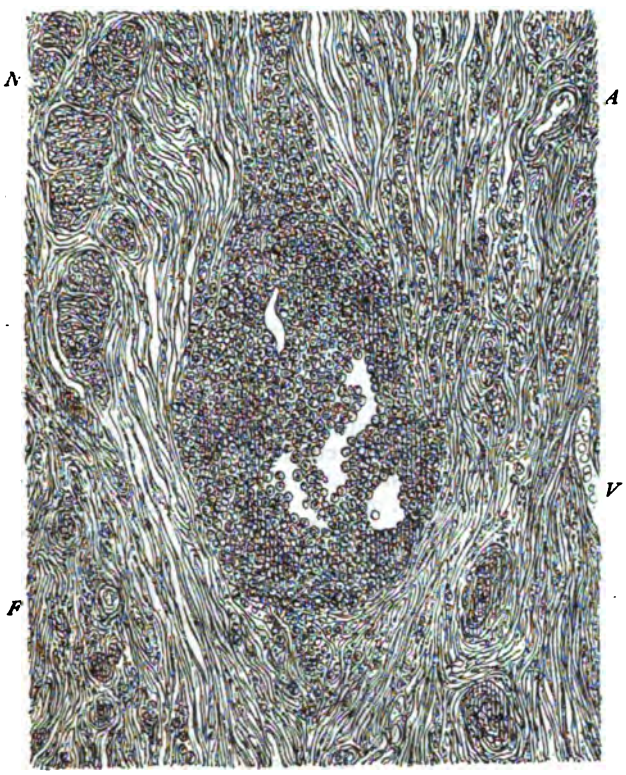

FIG. 7.—Miliary Abscess in the Peritoneal Pseudo-membrane. (× 100.) *F*, dense fibrous connective tissue; *N*, bundles of non-medullated nerve-fibres; *A*, artery; *V*, vein.

adhesions, in most instances there is an utter destruction of their physiological functions, and, if the organs are allowed to remain, will produce new or similar adhesions.

Purulent Peritonitis.—When the original inflammatory corpuscles break asunder, we have a formation of pus corpuscles or purulent peritonitis. Under the most favorable circumstances the pus may become encysted in dense, fibrous connective tissue—harmless temporarily, but constantly a threatened danger and a continued source of irritation—and will give more and more trouble until the pus finds some outlet.

Localized superficial suppuration of the peritoneum, on account of its frequent occurrence and serious import, becomes a matter of exceeding interest. The conditions which exist in such localized ulcerations of the peritoneum are illustrated in Fig. 8.

We see the endothelia in the shape of large, multinuclear bodies, derived from the effusion of several endothelia. These multinuclear bodies first become separated into inflammatory corpuscles, then become isolated and changed to pus corpuscles. The pus corpuscles are embedded in an albuminous exudate, and in specimens are visible, as a rule, only in small numbers along suppurating surfaces, since they have become detached and are no longer objects of cutting by the section cutter.

The suppuration may extend deep into the peritoneum and even into the adjacent organs. In one instance, which I reported in the MEDICAL RECORD, August, 1886, almost the entire ovary was destroyed by the suppuration or by an abscess. The patient, when brought to the hospital, was in an almost dying condition from purulent salpingitis. The uterine appendages were removed, and thereby the patient's life was saved, and she is, to this day, in excellent health.

Etiology of Peritonitis.—Traumatism is uniformly placed as one of the causes of peritonitis, but by far the most frequent cause is sepsis or infection. A cut or tear in the peritoneum, when there is no sepsis, heals rapidly; the surgeon can scarcely keep the cut surfaces apart. Extensive wounds or the severest trauma may be inflicted on the peritoneum and no peritonitis result, as tearing away adherent uterine appendages, removing large ovarian cysts, or the operation of supra-pubic or kolpo hysterectomy. In February, 1888, I removed a uterus, enlarged by a myoma, weighing thirteen and a half pounds; then through the vagina, the stump, with the attached fibroids, thus severely wounding the peritoneum, yet the patient had no peritonitis, nor any special rise of temperature. She was up on the fifteenth day, and since has been in good health. In the same year a patient consulted me who had retroflexed and retroverted uterus, and it, with the uterine appendages, was bound in with extensive and well-organized membranes to the pelvic floor, forming on the right a large abscess which extended into the adjoining aponeurosis, the wall of which abscess was partly formed by the remains of the right ovary and tube. Only a trace of the calibre of the tube could be seen. The whole diseased mass, with the adherent uterine appendages, was removed, destroying considerable portions of the peritoneum, yet, with all this traumatism, the patient made a rapid recovery, and had no peritonitis. Adherent to the specimen were some fibres of the psoas and iliac muscles.

In another case there was a fluctuating tumor bound to the floor of the pelvis. This tumor was removed, thus tearing away a large portion of the peritoneum, besides which, the bleeding was so severe at the ragged and adherent edges of the wound that it was necessary to clamp with forceps; yet there was no peritonitis. The peritoneal cavity, as in the former case, was flushed out, and still further cleansed by being packed with gauze made aseptic by heat.

It was afterward ascertained by microscopical investigation that the growth removed in the last-named patient was a cancer of the most malignant type, and the cancerous material had infiltrated the adjoining tissues; yet with all these unfavorable circumstances cleansing the

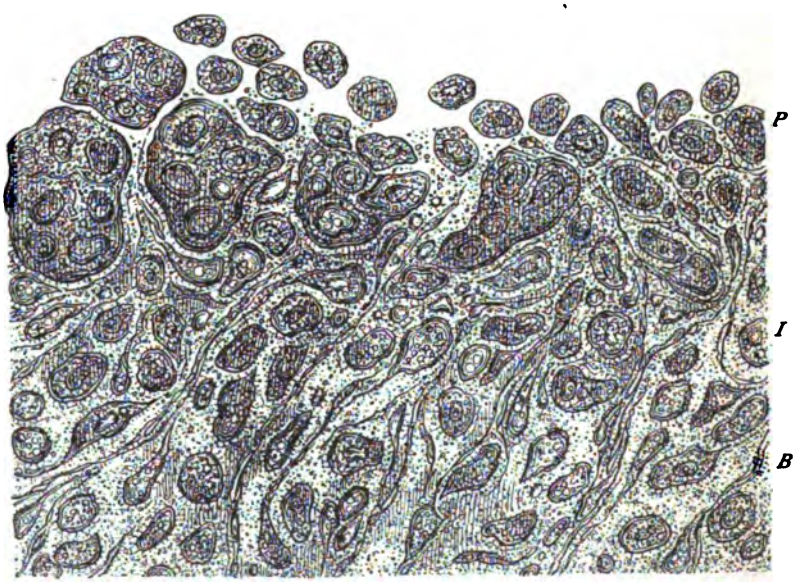

FIG. 8.—Suppurative Peritonitis of the Tube. (× 1,000.) *M*, multinuclear protoplasmic bodies, arising from endothelia; *P*, pus corpuscles, isolated protoplasmic bodies; *I I*, inflammatory corpuscles; *B*, basis substance reduced to protoplasm.

peritoneum prevented peritonitis, and the patient made a good recovery.[1]

Pathologists generally agree that the presence of some

[1] Subsequently the cancer returned, but the operation very much prolonged the patient's life.

micro-organisms is necessary for the production of peritonitis. We will find that it is the pyogenic bacteria, as staphylococci and streptococci, that caused the inflammatory abscesses and death. If kept chemically pure, no tissue heals more rapidly or can safely stand more injury than the peritoneum. We see how it can endure, with apparent impunity, for years, the continued irritation of a uterus enlarged by intramural fibromata or sub-peritoneal growths.

In severe trauma, when perceptibly there is no source of infection, the rupture of the veins, arteries, and capillaries may set free pathogenic germs, and cause sepsis and peritonitis. It is a well understood fact that the blood contains various micro-organisms, as staphylococcus pyogenes aureus (Rosenbach) or streptococci citreus, albus, and flavius, discovered and described by Passet. Ogston says: "Staphylococci cause diffuse suppuration, while streptococci are found in circumscribed abscesses."

According to the researches of Senn and others these microbes, while kept in circulation, do no harm, and may be destroyed in the system or eliminated by the excretory organs. Even pure cultures may be injected directly into the circulation, or into the peritoneal cavity, and no peritonitis ensue; but if there is a wound in the peritoneum, or any part of the body, and thereby the circulation is stopped, the microbes in the blood become localized and a soil is thus afforded for the development of the germs. A person may have tubercle bacilli in the blood, and for years be in apparent good health, yet an injury to the bone may cause a localization of the bacilli, and osteomyelitis or tuberculous infection of the joints may develop. So syphilitic germs may be in the blood, ready to develop some adverse condition whenever there is a soil or localization. Whatever may be the germ of syphilis, nothing is more deadly or more apt to produce fatal results in case of an operation.

Another cause of peritonitis, or source of infection, may be an ulcerating surface in a distant part of the body, from whence the pus microbe may be conveyed.

Again, various micro-organisms are often introduced by unclean fingers, instruments, etc., especially after confinement, when the abrasions and tears in the cervix and the uterine mucosa are as yet destitute of the protecting epithelium at the previous site of the placenta. This is especially the source of much trouble, and has no doubt destroyed the health and lives of an untold number of women, as so many ignorant and uncultivated midwives assume the duties of the office without previous preparation, many of whom have not the least idea of antisepsis or surgical cleanliness. Every one, man or woman, who does the work of an obstetrician should understand the principles of asepsis and antisepsis. The records of well-conducted maternity hospitals show the very great saving of life from carefulness in these respects. We could gather no such lessons from the millions of isolated cases unrecorded. The large mortality of women at the child-bearing period tells the story.

So far as is at present known, the most frequent pyogenic germs of peritonitis are gonococci. Noeggerath observed clinically the continued contagiousness of gonorrhœa, even after an apparent cure of months' and years' standing, and he suggested the plausible theory of "latent gonorrhœa," which, from a clinical stand point, was the best presentation. Scientific investigation has shown the foundation for this theory, and proved that the gonococci do remain in the system for years, and may travel to remote parts or organs. Dr. Ely [1] mentions the record of nine cases of malignant endocarditis, in which the urethra appears to have been the point of entrance of the micro-organisms. Bergman found gonococci in pus removed from the knee-joint three weeks after the beginning of arthritis. The continued and irrepressible presence of these gonococci explains how the disease may be communicated years after an apparent cure.

[1] Proceedings of the New York Pathological Society, 1888, p. 160.

Soon after infection the gonococci are found in the mucosa of the uterus, and may develop gonorrhœal endometritis in the healthiest woman. Then follows gonorrhœal or purulent salpingitis; the mucosa of the tubes becomes intensely inflamed; the delicate folds increase in size, and are filled with inflammatory corpuscles; they commence to suppurate; the suppurating process may extend into and destroy the muscular walls of the Fallopian tubes; and pus may find its way into the peritoneal cavity, producing repeated attacks of suppurative peritonitis. I believe gonorrhœal infection is one of the most frequent causes of disease of the uterine appendages, and of inflammations and suppurations of the peritoneum. Nature, for temporary protection, may seal up the fimbriated extremity, but there is constant danger, and the "pus tubes" may at any time produce a rapidly fatal peritonitis.

The fearful consequences of these diseases, whether produced by gonorrhœal infection or from the introduction in various ways of staphylococci or streptococci, should urge us to consider some mode of protection. No disease is more serious in its possible results. No greater calamity can happen to a woman. It blights forever her dearest hopes, cruelly darkens many of her brightest visions, and destroys forever the organs that make her a woman, and by which she may become a mother. The removal of the diseased uterine appendages by surgery is only to save her from more serious possibilities. With or without the operation she is in danger.

DOES PRESSURE MYELITIS EVER RESULT FROM LATERAL CURVATURE?[1]

By HENRY W. BERG, M.D.,

NEW YORK.

To anyone familiar with the various forms of paraplegia complicating Pott's disease of the vertebræ, the question as to whether similar disturbances of the function of the spinal cord ever complicate lateral curvature ought not to be a new one. In the course of my experience in orthopedic cases, I was constantly on the lookout for cases of paraplegia following lateral curvature, and while, as I shall again state later on, well-marked paraplegia had until recently not come under my notice, milder forms of trophic and motor disturbances complicating lateral curvature had often been seen by me. As to whether the nervous symptoms were the sequence of the lateral curvature was a question which I was disposed to answer in the affirmative, but which orthopedic surgeons with whom I consulted were disposed to consider of independent origin.

It is claimed by the vast majority of our *confrères* that there is no analogy between the angular curvature of Pott's disease and the lateral curvature of scoliosis. The chief difference is that in the former the bodies of the vertebræ are the seat of a degenerative inflammation and the curvature results from the breaking down of diseased vertebral bodies, while in the latter the curvature is the disease, there being primarily no inflammatory process as a cause of the lesion. It is furthermore claimed that the myelitis of Pott's disease is possibly only an extension of the inflammatory process from the vertebræ into the spinal cord. Were this the real pathology of the so-called pressure myelitis of Pott's disease, I must confess that it would prohibit our using the well-known frequency with which Pott's disease is followed by paralysis as a basis for expecting similar paralyses to result from lateral curvature. But the pathology of Pott's disease is not that of an extension of the inflammatory process from the bony tissues to the cord. Indeed the very term pressure myelitis of Pott's disease precludes such an idea. It is not a tuberculous inflammation of the spinal cord; it is not even always a transverse myelitis, but often takes on the clini-

[1] Read before the Orthopedic Section of the New York Academy of Medicine.

cal features and history of inflammation of a chronic character of the cord on a level with the angular curvature, and secondary degeneration in the motor tracts below the level of the deformity. In other cases the posterior columns are affected, as shown by sensory disturbances, while motor symptoms are absent, while in still other cases lancinating pains with trophic and motor disturbances attest the presence of a pachymeningitis with pressure on the spinal nerve roots. Very rarely indeed has paralysis been found due to the pressure of displaced fragments of necrosed bone. It may be permitted me also to call attention to the character of the inflammatory process affecting the cord in Pott's myelitis. It has not been found to be tuberculous in kind, as it should be, were it an extension of the affection in the vertebral bodies, but it is the ordinary chronic inflammation with proliferation of the connective tissue and wasting of the medullary nerve-fibres. The frequency with which recovery from Pott's paraplegia occurs, and this disease has a most remarkable tendency toward recovery, attests the benign character of the inflammation.

If, then, the paralysis of Pott's disease is not as a rule due to a myelitis caused by juxtaposition with an inflamed bony canal, it may rightly be assumed that pressure of some sort is the exciting cause. This pressure, however, as I have already hinted, is not a direct pressure due to deformity of the spinal canal; for even in the most excessive cases of angular curvature the spinal foramen retains an almost normal lumen (Warren Museum specimen in Dr. Gibney's article in "Buck's Handbook of the Medical Sciences"), the disease being limited to the body; the arches of the vertebræ are not disturbed, and the spinal canal remains fully patent. We must rather assume that the long-continued flexion of the cord upon itself is a direct cause of the interference of the circulation in the cord, which finally results in the chronic meningitis and myelitis. In other words, the pressure is an intraspinal cord pressure. In the case of Pott's disease the flexion is sufficiently acute to render myelitis a comparatively frequent complication. In lateral curvature the flexion, a lateral flexion and not an antero-posterior one, as in angular curvature, is not acute, but is gradual. It extends over a larger surface of cord and is, as a rule, sigmoid, and myelitis is a rare complication, the circulation of the cord and its membranes being less interfered with. Furthermore, the deformity of lateral curvature increasing much more gradually than that of Pott's disease, the circulation of the spinal cord has more opportunity to adapt itself to the altered axis of the spinal canal.

I must mention here, however, that one of the arguments *a priori* against the possibility of the occurrence of myelitis due to the lateral flexion which the cord suffers in lateral curvature, is that in normal and healthy people the spinal column is constantly being flexed in every direction without any interference with the function of the cord. But this consideration would not invalidate the possibility of the occurrence of myelitis and other disturbances of the function of the cord in consequence of the permanent, although gradual, lateral flexion which it undergoes in scoliosis. We have other examples in the human body where a transient disturbance of position does not produce disease, while a permanent malposition does; and this too in organs far less sensitive in their structure than the spinal marrow. To borrow an example, for instance, from gynecology, it will be recalled that the uterus, swaying with every movement of the body in health, will, if owing to disease of itself or appendages it suffer a permanent flexion, even to a slight degree, give rise to chronic inflammation and disease of the organ. How much more readily, then, should we expect so friable and delicate an organ as the spinal cord, with its complicated ramification of blood-vessels, to suffer when it becomes the seat of permanent flexion?

Could I, however, offer only theoretical reasons why the spinal cord could occasionally become the seat of disease in scoliosis, this paper would be futile. Where are your cases? would be the natural query. I confess they are not numerous, so rare indeed are they that an extensive search in the literature of the subject has revealed the following conditions:

1. I have found no authority on the pathology of scoliosis who even mentions that the spinal cord has ever been examined in lateral curvature.

2. No authority gives a clinical history of any cases in which disturbances of innervation accompanying lateral curvature are ascribed to pressure on the cord. I have found but two who even in a remote way acknowledge that the cord is ever affected in lateral curvature. Sir Charles Bell supposes that very often paraplegia and other forms of cord disturbances must be often caused by lateral curvature. Dr. Stedman, in his article in "Buck's Handbook of the Medical Sciences," confesses that the condition of the cord in lateral curvature has not been sufficiently studied to enable us to express any opinion as to what lesion or injury it suffers in this form of spinal deformity. Drs. Bradford and Lovett state positively that lateral curvature never gives rise to cord symptoms.

3. I have found the most advanced forms of degeneration in the muscles and ligaments of persons suffering from lateral curvature, particularly when such degeneration, etc., occurs on the convex side of the deformity, accounted for by almost all writers on the theory that they are the result of disuse. Would these writers accept such a pathology for similar muscular disturbances occurring in the limbs of patients not suffering from lateral curvature, or would they look for cord lesions to account for them?

Some years ago, while at the Orthopædic Dispensary, I had occasion to examine, electrically, the muscles of many cases of lateral curvature. The object I had in view at that time, at the suggestion of Dr. Schaffer, was to seek in the condition of the muscles and nerves of the spine for the etiological factor in the production of the scoliosis. My investigations did not reveal any such etiology, but I did find positive proof in several of the advanced cases that the atrophic and degenerated condition of the muscles on the convex, and even on the concave, side of both primary and secondary curvatures, was not the result of disuse or hyper-activity, as the case might be, but of organic affection of the trophic and motor centres of the cord. Of course, I do not include among these such cases in which a lesion such as poliomyelitis or hemiplegia was the primary factor and the lateral curvature secondary to the paralysis. But I did find that where, for instance, in a primary dorsal scoliosis, the mammæ were atrophied on the convex side of the deformity, there was also diminished faradic contractility in the pectoral and rib muscles on that side of the chest, and in isolated cases even a reversal of formula with diminished quantity to the galvanic stimulus. In every case there was increased patellar tendon reflex; there was sometimes clonus readily obtained in an extended wrist, and other symptoms of exalted irritability so common in lateral sclerosis of the cord, without any of the spastic conditions so characteristic in this affection.

Hysteria, so common in the very subjects who are most frequently affected by lateral curvature, has had to bear the brunt of all of these symptoms of exalted irritability. But certainly atrophy and degeneration of muscles and organs are not symptomatic of hysteria. Recently, however, I have had under observation in private practice a most remarkable case of lateral curvature which is so interesting that I shall beg the indulgence of the Section while I relate it.

Miss X——, twenty years of age, in perfect health until thirteen years old, when her father noticed for the first time that the right shoulder was higher than the left and the left hip more prominent than the right. He took his daughter to the family physician, who made an examination and found that the patient was suffering from

micro-organisms is necessary for the production of peritonitis. We will find that it is the pyogenic bacteria, as staphylococci and streptococci, that caused the inflammatory abscesses and death. If kept chemically pure, no tissue heals more rapidly or can safely stand more injury than the peritoneum. We see how it can endure, with apparent impunity, for years, the continued irritation of a uterus enlarged by intramural fibromata or sub-peritoneal growths.

In severe trauma, when perceptibly there is no source of infection, the rupture of the veins, arteries, and capillaries may set free pathogenic germs, and cause sepsis and peritonitis. It is a well understood fact that the blood contains various micro-organisms, as staphylococcus pyogenes aureus (Rosenbach) or streptococci citreus, albus, and flavius, discovered and described by Passet. Ogston says: "Staphylococci cause diffuse suppuration, while streptococci are found in circumscribed abscesses."

According to the researches of Senn and others these microbes, while kept in circulation, do no harm, and may be destroyed in the system or eliminated by the excretory organs. Even pure cultures may be injected directly into the circulation, or into the peritoneal cavity, and no peritonitis ensue; but if there is a wound in the peritoneum, or any part of the body, and thereby the circulation is stopped, the microbes in the blood become localized and a soil is thus afforded for the development of the germs. A person may have tubercle bacilli in the blood, and for years be in apparent good health, yet an injury to the bone may cause a localization of the bacilli, and osteomyelitis or tuberculous infection of the joints may develop. So syphilitic germs may be in the blood, ready to develop some adverse condition whenever there is a soil or localization. Whatever may be the germ of syphilis, nothing is more deadly or more apt to produce fatal results in case of an operation.

Another cause of peritonitis, or source of infection, may be an ulcerating surface in a distant part of the body, from whence the pus microbe may be conveyed.

Again, various micro-organisms are often introduced by unclean fingers, instruments, etc., especially after confinement, when the abrasions and tears in the cervix and the uterine mucosa are as yet destitute of the protecting epithelium at the previous site of the placenta. This is especially the source of much trouble, and has no doubt destroyed the health and lives of an untold number of women, as so many ignorant and uncultivated midwives assume the duties of the office without previous preparation, many of whom have not the least idea of antisepsis or surgical cleanliness. Every one, man or woman, who does the work of an obstetrician should understand the principles of asepsis and antisepsis. The records of well-conducted maternity hospitals show the very great saving of life from carefulness in these respects. We could gather no such lessons from the millions of isolated cases unrecorded. The large mortality of women at the child-bearing period tells the story.

So far as is at present known, the most frequent pyogenic germs of peritonitis are gonococci. Noeggerath observed clinically the continued contagiousness of gonorrhœa, even after an apparent cure of months' and years' standing, and he suggested the plausible theory of "latent gonorrhœa," which, from a clinical stand point, was the best presentation. Scientific investigation has shown the foundation for this theory, and proved that the gonococci do remain in the system for years, and may travel to remote parts or organs. Dr. Ely [1] mentions the record of nine cases of malignant endocarditis, in which the urethra appears to have been the point of entrance of the micro-organisms. Bergman found gonococci in pus removed from the knee-joint three weeks after the beginning of arthritis. The continued and irrepressible presence of these gonococci explains how the disease may be communicated years after an apparent cure.

[1] Proceedings of the New York Pathological Society, 1888, p. 160.

Soon after infection the gonococci are found in the mucosa of the uterus, and may develop gonorrhœal endometritis in the healthiest woman. Then follows gonorrhœal or purulent salpingitis; the mucosa of the tubes becomes intensely inflamed; the delicate folds increase in size, and are filled with inflammatory corpuscles; they commence to suppurate; the suppurating process may extend into and destroy the muscular walls of the Fallopian tubes; and pus may find its way into the peritoneal cavity, producing repeated attacks of suppurative peritonitis. I believe gonorrhœal infection is one of the most frequent causes of disease of the uterine appendages, and of inflammations and suppurations of the peritoneum. Nature, for temporary protection, may seal up the fimbriated extremity, but there is constant danger, and the "pus tubes" may at any time produce a rapidly fatal peritonitis.

The fearful consequences of these diseases, whether produced by gonorrhœal infection or from the introduction in various ways of staphylococci or streptococci, should urge us to consider some mode of protection. No disease is more serious in its possible results. No greater calamity can happen to a woman. It blights forever her dearest hopes, cruelly darkens many of her brightest visions, and destroys forever the organs that make her a woman, and by which she may become a mother. The removal of the diseased uterine appendages by surgery is only to save her from more seroius possibilities. With or without the operation she is in danger.

DOES PRESSURE MYELITIS EVER RESULT FROM LATERAL CURVATURE?[1]

By HENRY W. BERG, M.D.,

NEW YORK.

To anyone familiar with the various forms of paraplegia complicating Pott's disease of the vertebræ, the question as to whether similar disturbances of the function of the spinal cord ever complicate lateral curvature ought not to be a new one. In the course of my experience in orthopedic cases, I was constantly on the lookout for cases of paraplegia following lateral curvature, and while, as I shall again state later on, well-marked paraplegia had until recently not come under my notice, milder forms of trophic and motor disturbances complicating lateral curvature had often been seen by me. As to whether the nervous symptoms were the sequence of the lateral curvature was a question which I was disposed to answer in the affirmative, but which orthopedic surgeons with whom I consulted were disposed to consider of independent origin.

It is claimed by the vast majority of our *confrères* that there is no analogy between the angular curvature of Pott's disease and the lateral curvature of scoliosis. The chief difference is that in the former the bodies of the vertebræ are the seat of a degenerative inflammation and the curvature results from the breaking down of diseased vertebral bodies, while in the latter the curvature is the disease, there being primarily no inflammatory process as a cause of the lesion. It is furthermore claimed that the myelitis of Pott's disease is possibly only an extension of the inflammatory process from the vertebræ into the spinal cord. Were this the real pathology of the so-called pressure myelitis of Pott's disease, I must confess that it would prohibit our using the well-known frequency with which Pott's disease is followed by paralysis as a basis for expecting similar paralyses to result from lateral curvature. But the pathology of Pott's disease is not that of an extension of the inflammatory process from the bony tissues to the cord. Indeed the very term pressure myelitis of Pott's disease precludes such an idea. It is not a tuberculous inflammation of the spinal cord; it is not even always a transverse myelitis, but often takes on the clini-

[1] Read before the Orthopedic Section of the New York Academy of Medicine.

cal features and history of inflammation of a chronic character of the cord on a level with the angular curvature, and secondary degeneration in the motor tracts below the level of the deformity. In other cases the posterior columns are affected, as shown by sensory disturbances, while motor symptoms are absent, while in still other cases lancinating pains with trophic and motor disturbances attest the presence of a pachymeningitis with pressure on the spinal nerve roots. Very rarely indeed has paralysis been found due to the pressure of displaced fragments of necrosed bone. It may be permitted me also to call attention to the character of the inflammatory process affecting the cord in Pott's myelitis. It has not been found to be tuberculous in kind, as it should be, were it an extension of the affection in the vertebral bodies, but it is the ordinary chronic inflammation with proliferation of the connective tissue and wasting of the medullary nerve-fibres. The frequency with which recovery from Pott's paraplegia occurs, and this disease has a most remarkable tendency toward recovery, attests the benign character of the inflammation.

If, then, the paralysis of Pott's disease is not as a rule due to a myelitis caused by juxtaposition with an inflamed bony canal, it may rightly be assumed that pressure of some sort is the exciting cause. This pressure, however, as I have already hinted, is not a direct pressure due to deformity of the spinal canal; for even in the most excessive cases of angular curvature the spinal foramen retains an almost normal lumen (Warren Museum specimen in Dr. Gibney's article in "Buck's Handbook of the Medical Sciences"), the disease being limited to the body; the arches of the vertebræ are not disturbed, and the spinal canal remains fully patent. We must rather assume that the long-continued flexion of the cord upon itself is a direct cause of the interference of the circulation in the cord, which finally results in the chronic meningitis and myelitis. In other words, the pressure is an intraspinal cord pressure. In the case of Pott's disease the flexion is sufficiently acute to render myelitis a comparatively frequent complication. In lateral curvature the flexion, a lateral flexion and not an antero-posterior one, as in angular curvature, is not acute, but is gradual. It extends over a larger surface of cord and is, as a rule, sigmoid, and myelitis is a rare complication, the circulation of the cord and its membranes being less interfered with. Furthermore, the deformity of lateral curvature increasing much more gradually than that of Pott's disease, the circulation of the spinal cord has more opportunity to adapt itself to the altered axis of the spinal canal.

I must mention here, however, that one of the arguments *a priori* against the possibility of the occurrence of myelitis due to the lateral flexion which the cord suffers in lateral curvature, is that in normal and healthy people the spinal column is constantly being flexed in every direction without any interference with the function of the cord. But this consideration would not invalidate the possibility of the occurrence of myelitis and other disturbances of the function of the cord in consequence of the permanent, although gradual, lateral flexion which it undergoes in scoliosis. We have other examples in the human body where a transient disturbance of position does not produce disease, while a permanent malposition does; and this too in organs far less sensitive in their structure than the spinal marrow. To borrow an example, for instance, from gynecology, it will be recalled that the uterus, swaying with every movement of the body in health, will, if owing to disease of itself or appendages it suffer a permanent flexion, even to a slight degree, give rise to chronic inflammation and disease of the organ. How much more readily, then, should we expect so friable and delicate an organ as the spinal cord, with its complicated ramification of blood-vessels, to suffer when it becomes the seat of permanent flexion?

Could I, however, offer only theoretical reasons why the spinal cord could occasionally become the seat of disease in scoliosis, this paper would be futile. Where are your cases? would be the natural query. I confess they are not numerous, so rare indeed are they that an extensive search in the literature of the subject has revealed the following conditions:

1. I have found no authority on the pathology of scoliosis who even mentions that the spinal cord has ever been examined in lateral curvature.

2. No authority gives a clinical history of any cases in which disturbances of innervation accompanying lateral curvature are ascribed to pressure on the cord. I have found but two who even in a remote way acknowledge that the cord is ever affected in lateral curvature. Sir Charles Bell supposes that very often paraplegia and other forms of cord disturbances must be often caused by lateral curvature. Dr. Stedman, in his article in "Buck's Handbook of the Medical Sciences," confesses that the condition of the cord in lateral curvature has not been sufficiently studied to enable us to express any opinion as to what lesion or injury it suffers in this form of spinal deformity. Drs. Bradford and Lovett state positively that lateral curvature never gives rise to cord symptoms.

3. I have found the most advanced forms of degeneration in the muscles and ligaments of persons suffering from lateral curvature, particularly when such degeneration, etc., occurs on the convex side of the deformity, accounted for by almost all writers on the theory that they are the result of disuse. Would these writers accept such a pathology for similar muscular disturbances occurring in the limbs of patients not suffering from lateral curvature, or would they look for cord lesions to account for them?

Some years ago, while at the Orthopædic Dispensary, I had occasion to examine, electrically, the muscles of many cases of lateral curvature. The object I had in view at that time, at the suggestion of Dr. Schaffer, was to seek in the condition of the muscles and nerves of the spine for the etiological factor in the production of the scoliosis. My investigations did not reveal any such etiology, but I did find positive proof in several of the advanced cases that the atrophic and degenerated condition of the muscles on the convex, and even on the concave, side of both primary and secondary curvatures, was not the result of disuse or hyper-activity, as the case might be, but of organic affection of the trophic and motor centres of the cord. Of course, I do not include among these such cases in which a lesion such as poliomyelitis or hemiplegia was the primary factor and the lateral curvature secondary to the paralysis. But I did find that where, for instance, in a primary dorsal scoliosis, the mammæ were atrophied on the convex side of the deformity, there was also diminished faradic contractility in the pectoral and rib muscles on that side of the chest, and in isolated cases even a reversal of formula with diminished quantity to the galvanic stimulus. In every case there was increased patellar tendon reflex; there was sometimes clonus readily obtained in an extended wrist, and other symptoms of exalted irritability so common in lateral sclerosis of the cord, without any of the spastic conditions so characteristic in this affection.

Hysteria, so common in the very subjects who are most frequently affected by lateral curvature, has had to bear the brunt of all of these symptoms of exalted irritability. But certainly atrophy and degeneration of muscles and organs are not symptomatic of hysteria. Recently, however, I have had under observation in private practice a most remarkable case of lateral curvature which is so interesting that I shall beg the indulgence of the Section while I relate it.

Miss X——, twenty years of age, in perfect health until thirteen years old, when her father noticed for the first time that the right shoulder was higher than the left and the left hip more prominent than the right. He took his daughter to the family physician, who made an examination and found that the patient was suffering from

lateral curvature. The doctor advised a brace of some sort to be worn. The young lady was taken to an instrument-maker, who made a brace for her after consulting with the family doctor. I have been unable to get an accurate description of the apparatus, but it appears to have been some arrangement with perineal straps. This brace the patient wore for a year or so under the occasional observation of the instrument maker. At the end of that time the father finding the lateral curvature of the spine growing worse, and the patient having begun to complain of pain in the right leg, she was taken to another physician, who advised a brace of another character and put her upon tonic treatment. Some months later the friends noticed that the patient was dragging the right leg in walking, while the girl herself complained of stiffness of the right leg with a tendency to trip over the toe. The patient was now sent to a neurologist, who advised massage and the removal of the brace. In spite of this treatment, however, the walk became worse, and she began to have difficulty with the left leg similar to the trouble she had in the right. Both legs were stiff, she walked with effort, and she found it particularly difficult to bring the heel down on the ground. During the time that she was growing worse she consulted many neurologists, but notwithstanding the tendency was always toward aggravation of her symptoms. In the past year she has begun to have trouble in the use of the left hand and arm; she has found she cannot control the movements of her left hand sufficiently to do any delicate work, such as piano-playing. She invariably misses the keys with the left hand, though she reads music well; the right hand also is becoming affected. She has great difficulty in signing her name, although the trouble in the right hand is much less in degree than in the left. Her walk is now extremely bad; she cannot separate her limbs readily; she cannot go up and down stairs without assistance, and requires aid in walking across the room on a level floor. There have never been any bladder or rectal symptoms; she has had no trouble of speech or sight; is not conscious of any disturbance of sensibility; no pain or anæsthesia; eyesight perfectly normal; has had no double vision; has menstruated regularly since the fifteenth year; no history of nervous diseases in the family; mother died of phthisis.

Examination.—Patient intelligent, fairly well built; no sign of atrophy of the limbs or arms; spinal column curved laterally to the left (convex) at the lumbar region; a smaller secondary curve to the right at the upper dorsal region; the curves are accompanied by only slight rotation; the arc of the lower curve measures about one inch and a half at the highest point, no atrophy of the abdominal muscles at either side; the right breast somewhat smaller than the left. So that the patient suffers from a primary lumbar scoliosis, with a compensatory curve in the upper dorsal region.

Nervous Symptoms.—Patellar tendon reflex markedly exaggerated, and marked ankle clonus on both sides; the abductor muscles of the thighs contracted and resisting forcible abduction; walk typically spastic and jerky, more so on the right side than on the left; the heel does not touch the ground in walking, on either side; she can touch a given spot with the point of her great toe only with extreme difficulty; she can walk without aid on the level floor, but is unable to go up and down stairs alone; dynamometer shows good grasp in hands, stronger in the right than in the left; no reflex at the wrist or elbow, no ataxia of either hand; writes name with difficulty, owing chiefly, as she says, to "stiffness" of the fingers; tongue does not deviate to either side when protruded; the muscles of the face act well on both sides, although patient gives a history of having suffered from Bell's palsy when eight years old, from which she recovered entirely; no strabismus; eye-muscles normal; no nystagmus; field of vision normal; no difficulty in deglutition; no stammering; no anæsthesia in limbs or arms, or any part of the body; fundus of the eye shows nothing abnormal; no difficulty of accommodation in vision; patient reads well at ordinary distance; no abnormality in the sense of taste or smell.

Diagnosis.—Lateral curvature of the spine. Three years subsequent, lateral sclerosis of the cord, beginning at the lower dorsal region and passing downward so as to affect the remainder of the cord. Within the past year, a new focus of sclerosis in the lateral columns of the cord higher up, about at the level of the lower cervical and upper dorsal enlargement. This separate focus is necessitated by the fact that sclerosis of the lateral columns or motor tracts of the spinal cord does not progress centripitally, but centrifugally. This is not a case of disseminated sclerosis or *sclerose en plaques*, for the reason that we have clinically no symptoms which would point to sclerotic patches in any other portions of the nervous centres. There are no sensory disturbances, no eye symptoms, no stammering, no difficulty in deglutition, no symptoms except those of derangement of the motor tracts in the lateral columns of the cord. There are no symptoms of interference with the functions of the cortex of the brain or other cerebral centres. No hemiplegia which would point to the internal capsule for its pathogenesis. We have, then, a systematic sclerosis of the lateral columns of the cord, and not a secondary degeneration of these columns due to cerebral disease. I furthermore believe that this sclerosis of the columns of Tuerk in this case is the direct result of the sinuous flexion which the cord has undergone in consequence of the preceding lateral curvature. I have arrived at this conclusion upon the following grounds: 1. A primary systematic sclerosis of the lateral columns is an exceedingly rare disease, and in the opinion of many authorities an impossible affection. Where symptoms point to such a disease it is fair to presume that the sclerotic degeneration is secondary to either cerebral abnormality or disease, or to a myelitis of the cord, with a secondary degeneration of the lateral columns below the level of the myelitis. Says Byron Bramwell:[1] "The conditions most likely to be mistaken for primary lateral sclerosis is any lesion which produces slow compression of the cord, and which causes secondary descending degeneration. In making the diagnosis attention must be directed to the condition of the vertebral column." The myelitis in this case, I presume, is due to an interference in the circulation of the cord, owing to its flexion, in accordance with the direction of the deformed spinal canal. This flexion being a lateral one, the greater amount of interference would necessarily be in the lateral portions of the cord. The fact that the right leg was the first to become affected would indicate that the pressure was greatest in the convexity of the curve. Furthermore the occurrence of the affection in the left arm to a greater extent than in the right would be accounted for in a similar manner, the secondary curve being toward the right and convexity to the left.

The object of this clinical contribution is, 1, to call attention to the possibility of a pressure myelitis resulting from lateral curvature. That the condition is rare is most probable, the flexion which the cord undergoes being gradual, and in most cases slight, so that the cord is enabled to adapt itself to its new abnormal position without suffering any pathological alteration. 2. That the atrophy and degeneration of bones and muscles, as well as organs (mammary glands), occurring on either side of the curve, is not due to disuse of these muscles and organs and glands, but to changes in the trophic centres of the cord as a direct result of the lesion which it suffers from the lateral and rotatory displacement of the bony canal in which it is lodged. These latter conditions are not rare, but exceedingly common, and I think that my paper will warrant the conclusion that they are due to an affection of the spinal cord less in degree than the case which I have related. If this case serves to direct the attention of neurologists and orthopædists to the frequency of spinal cord affection in lateral curvature,

[1] Diseases of the Spinal Cord. 1882.

the literature will soon teem with examples of well-marked pressure myelitis complicating lateral curvature.

245 Seventh Street.

Therapeutic Hints.

Treatment of Pruritus Vulvæ.—Dr. J. B. Kessler, of Iowa City, writes: "I noticed in the Medical Record of April 30, 1892, treatment of pruritus vulvæ by galvanism. I have used for many years hydrarg. corrosiv. chloride for the same; also for pruritus ani. I formerly used it in alcoholic solution, but latterly in tincture of myrrh, gr. ij.–iv. to ʒ j. After cleansing the parts thoroughly with hot water, apply with sponge or probe, wrapped with cotton; two to three applications is usually sufficient. I might add that the tincture of myrrh is not original, but read of it several years ago from Prince A. Morrow, M.D., of New York, recommending it as a vehicle in treating tænia circinatus.

Bromidrosis of the Feet.—A powder of alum, 2 parts, in talc, 10 parts, is recommended as of value in sweating of the feet.

Acne.—The following is said to have been very serviceable in acne:

℞. Sulph. præcip. ..... gr. xv.
Spt. camphoræ ..... ♏ v.
Glycerini ..... ʒ ss.
Aq. calcis ..... ʒ j.

Sig.: Apply freely at night, and wash off in the morning.

A 1 to 1,000 solution of corrosive sublimate in emulsion of almond-oil is also recommended in this condition.

Locomotor Ataxia.—A modification of the suspension treatment of tabes consists in the forcible flexion of the thighs on the abdomen, the knees being held extended. The manœuvre sometimes causes severe pain, but no other untoward symptom has been reported from its use.

Treatment of Diphtheria in Paris.—The following treatment of diphtheria in children is much advocated at present. The room is steamed with a solution as follows:

Phenic acid ..... ʒ ij.
Salicylic acid ..... ʒ iv.
Benzoic acid ..... ʒ jss.
Alcohol ..... ʒ iv.

A tablespoonful is put into a quart of boiling water and renewed every three hours.

As a local application:

Camphor ..... ʒ v.
Castor-oil ..... ʒ iv.
Alcohol ..... ʒ iij.
Phenic acid ..... ʒ j.
Tartaric acid ..... ʒ i.

—*Medical Press.*

Injection for Gleet.—

℞. Hydrarg. bichlorid ..... gr. ¼.
Zinci sulph. carbolat ..... ʒ ss.
Acid boric ..... ʒ jss.
Liq. hydrogen peroxid ..... f ʒ iv.
Aquæ destillat ..... ad f ʒ vj.

M Use injection in the morning and evening.

—Dr. A. Hewson, *College and Clinical Record.*

Pruritus Vulvæ.—The wash described below has been found useful by Dr. Bulloch, in cases of pruritus vulvæ:

℞. Aluminii nitras ..... gr. xxiv.
Aquæ ..... ʒ iv.

M. Sig.: Wash the parts once or twice a day, and use as a vaginal injection in the same way.

—*N. E. Medical Monthly.*

Bubo.—Dr. A. Hewson, of Philadelphia, uses an ointment of ichthyol ʒ ss. in lanolin ʒ jss. as an application to bubo.

Treatment of Dysentery.—

Salol ..... ʒ j.
Syrup of tolu ..... ʒ ij.
Extract of opium ..... grs. ij.
Cognac ..... ʒ j.
Gum water ..... ʒ vij.

A tablespoonful every hour.

—*Meaical Press.*

Rheumatism.—Dr. Hebbing employs the following as a local application in the treatment of rheumatism:

℞. Salol,
Sulphuric ether ..... āā ʒ j.
Collodion ..... ʒ j.

To be applied around the joints which are affected by acute rheumatism.

—*L'Union Médicale.*

For Enlarged Spleen.—The following prescription I used for ten years in the swamps of Arkansas, and it seldom failed to effect a cure when used a directed:

℞. Quininæ sulph.,
Ferri redacti ..... āā ʒ ij.
Strychninæ sulph.,
Acidi arseniosi ..... āā gr. iij.
Ext. gentian, q. s.,
Misc. et fiat pill. No. 70.

Sig.: One pill three times a day.

If the stomach is weak and will not bear more, begin with one pill and increase to three per day. Stop the fevers first for two or three days with quinine before beginning this treatment. Treatment should be continued from one to two months, or until the enlarged gland can be no longer felt. This has served me better than any other remedy in all chronic malarial cases. For children I use soluble citrate of iron, iodide of potassium, and Fowler's solution, in syrup of orange or a suitable elixir.—B. P. Wilson, in the *Medical World.*

Formula for Wine of Coca.—The *Pharmaceutische Post* gives the following formula for making a good coca wine:

℞. Coca-leaves ..... ʒ iij.
Cognac ..... ʒ jss.
Sherry wine ..... ♁ jss.
Hungarian wine ..... ʒ vj.

Macerate for several days and add seven grains of citric acid. Allow this mixture to stand for several days and then filter.

Phosphorus Poisoning.—A one-third per cent. solution of permanganate of potassium is recommended as an antidote in phosphorus poisoning. It is said to convert the substance into phosphoric acid.

Treatment of Pneumonia.—Dr. L. B. Young, writing in the *Times and Register* on the management of pneumonia, says that in the early stage he gives from five to eight drops of tincture of aconite or of veratrum viride every two or three hours (cautiously, we hope), and in the stage of hepatization, to promote absorption, he makes use of the following formula:

℞. Ammonii carbonatis ..... ʒ ij.
Potassii iodidi ..... ʒ jss.
Syr. aurantii cort ..... ʒ ij.
Aquæ ..... ʒ ij.

M. S.: Teaspoonful every two hours.

He also generally blisters. When there is much depression and debility he combines digitalis with the ammonium and potassium mixture. He claims that under this mode of treatment he has never lost a case. If others were equally successful the disease would soon lose its terrors.

Scabies.—

℞. Petrolei ..... ʒ iv.
Ceræ albæ ..... ʒ iv.
Alcoholis ..... ʒ v.
Saponis ..... ʒ x.

M. et ft. unguentum.

—*Nouveaux Remèdes.*

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TYPHOID FEVER IN BOSTON.

THE recent series of discussions on the modern treatment of typhoid fever before the Practitioners' Society of this city, has been supplemented by Dr. A. L. Mason's careful study of 676 cases of typhoid fever admitted to the Boston City Hospital in 1890 and 1891 (*Boston Medical and Surgical Journal*).

Dr. Mason shows that for purposes of therapeutic comparison, a series of not less than 600 cases must be obtained. Thus the mortality-rate among his 676 cases was 10.4 per cent.; but on one occasion there were 54 consecutive cases without a death, while the mortality-rates among groups of 100 ranged from six per cent. to fourteen per cent.

If this general law were established that one must have 600 cases before he can pretend to generalize therapeutically, it would have a very conservative effect upon the literature of remedies.

Some general clinical facts are given by Dr. Mason regarding his cases. Thus there were 65 under fifteen years of age, 523 between fifteen and thirty-five, and only 88 after the age of thirty-five. The mortality was only three per cent. among children, and was greater after the age of thirty-five.

There were 445 males and 231 females; the mortality was two per cent. higher in the latter.

As regards treatment, there does not seem to have been any systematic attempt to follow up hydrotherapy or antisepsis, or any other special method. Cold sponging, phenacetine, hydro-naphthol, salol, etc., were used in different sets of cases.

The conclusions which he draws are: 1. That in the Boston City Hospital the mortality in typhoid fever from patients admitted moribund and with grave complications is four per cent. 2. That at least three per cent. more die from intestinal perforation and hemorrhage. 3. That little diminution in the mortality from these causes can be expected under any mode of treatment. 4. That the mortality from renal, pulmonary, and circulatory disturbances, from diarrhœa and pyrexial exhaustion, is about 3.5 per cent. 5. That, excluding deaths from intestinal perforation and hemorrhage, the mortality among females is 3.4 per cent. greater than among males. 6. That a diminution of two per cent. in the general mortality might be expected from the systematic use of cold baths, the reduction being largely in females. 7. That favorable results followed the trial of intestinal antiseptics, but that relapses were not prevented thereby, and that a much wider experience is necessary to determine their value.

One is struck with the fact of the great amount of typhoid fever in Boston. We doubt if all the hospitals of this city have at any one time as many cases of this disease as the City Hospital of Boston. It looks as if the subject of prophylaxis might profitably engage the attention of the profession of that town.

HEART PAIN.

THE statement is often made to patients who complain of pain about the heart, that it is due to the pressure of the stomach when distended with food or gas. It is unquestionably true that many who think they have heart disease are in reality dyspeptics, but it is equally well known that many conditions produce painful sensations of various kinds in the heart itself, and when intercostal neuralgia, myalgia, or muscular rheumatism of the chest-wall, cutaneous hyperalgesia, and localized pleuritis have been eliminated, there still remains a considerable number of causes for pain in the heart region.

Nothnagel has recently made the attempt to show the causal relation between cardiac pain and actual disease of the organ, and has tabulated nearly five hundred cases of valvular disease with this object in view, excluding neuroses with precordial pain as well as instances of pericarditis. The result of his study of the question, which is published in the *Zeitschrift für Klin Med.*, shows cardialgia to be frequent in cases of insufficiency and stenosis of the aortic orifice, while it is extremely rare in insufficiency of the mitral. Sixty per cent. of regurgitation in the former were found to be accompanied by pain, while only seven and a half of the latter cases had painful sensations. Hyperalgesia of the skin localized over the region of the heart, even in the absence of spontaneous pains, was observed in a number of subjects. Attention is also called to the frequency of pain in disease of the heart muscle, without concomitant valvular implication, as in simple myocarditis, fatty heart, cardiac hypertrophy, etc.; but the cardialgia in these special cases has nothing especially characteristic about it, and is only frequent in instances of arterio-sclerosis with hypertrophy. The obscurity which involves the whole subject of the heart's nervous system prevents the author from entering upon a discussion of the pathology of these various pains, but he regards them as of much importance in the diagnosis of obscure cases.

Dr. Liégeois has recently reported to the Société de Thérapeutique several observations on the effect of the tincture of piscidia erythrina in certain heart-pains, and has been led by his own experience with the drug to regard it as a good analgesic in the more or less permanent pains of vascular cardiopathies. The effect of the remedy is said to be more analgesic than hypnotic, and it produces no gastric disturbances. It is said that its active principle, piscidine, slows the heart's action and lowers the arterial pressure. It is very necessary to have a tincture prepared properly and not too long beforehand, as it does not keep well.

The formula which the writer especially recommends is as follows:

℞. Tinct. piscidæ erythrinæ..... gm. 60.
Tinct. verat. virid.,
Ext. aconiti rad. alc. ..... āā. gm. 15.
S.: 30 drops morning and night.

It is greatly to be hoped that piscidia may prove a more valuable remedy for the relief of pain about the heart than many others which have been recommended for this purpose. Some of these painful sensations are very distressing to the patient's mind as well as physically, and are not usually relieved by the remedies which act beneficially upon the action of the organ.

DISASTROUS RESULTS OF SYPHILIS.

WITHIN the past few years many important and substantial contributions have been made to our knowledge of the disastrous results that follow the inroads of syphilis in the nervous system; but it is rarely that we have the subject so vividly portrayed with its sad and terrible consequences as has been recently done by M. Morel Lavallée in a late number of the *Gazette des Hôpitaux*. He recites the case of an eighteen-year-old female who contracted syphilis a short time before, and then transmitted it to her lover, a medical student. His infection was followed by headache with increasing severity, irritability of temper, marasmus, and death in about two months from syphilitic meningitis.

The following year the same young woman, having become the mistress of a second medical student, who is dubbed Secundus by the author, likewise infected him with syphilis. She then quitted Secundus for Tertius, with whom she lived maritally for some time, and during this period she was twice confined. After nine years Tertius entered the matrimonial state, and in due time his wife was likewise delivered of two children, healthy and robust. Some years afterward he became delirious, tried to kill his children, of whom he had previously been very fond, and it was soon necessary to confine him in an asylum. Diagnosis, general paralysis resulting from ancient syphilitic infection. His death followed shortly afterward. A similar fate was meted out to Secundus, after a very similar marital experience.

Quartus, the next victim in order, it is pleasing to remark, was not a medical man, but allied to him, a pharmacist; he came, however, to the same sad end, to wit, death from progressive general paralysis, maniacal in form. Monsieur le Quintus, an engineer, also found his death from syphilitic insanity.

It is a sad commentary on the dealing out of just deserts, to know that the source of all this evil is legitimately married, in excellent health, and her children in good condition.

We have in mind a very similar case to the one in question, in all respects except the unfortunate results, which have not as yet, however, had time to develop. Two brothers worshipping at the same shrine of Venus were infected with syphilis, and they in turn were followed by a third, who carried away a like result. How many more were dealt with after the same generous fashion it is impossible to say; they may have been legion, for the foul source of this iniquity was still held out to Mammon, even after the mercenary Cyprian under whose roof these pleasures, which are followed by death, were for sale, was requested to withdraw her and send her to a hospital for treatment. This is a shining example of one of the results of illegal and uninspected prostitution.

The above-quoted gentleman also gives a genealogical table of the disastrous results of syphilis as follows: M——, an aristocrat, a high liver, and given to excesses of all kinds, marries Z——, very religious, very intelligent.

THREE CHILDREN.

The Eldest:	*The Sister:*	*Son, the Youngest:*
Nervous tic of the face; pusillanimous; can hardly learn to read and write; tremor; incapable of managing his own affairs; taciturn and suspicious; diagnosis; "dementia partialis."	Lively, epileptic, in intellect an imbecile; was born with (?) an atrophy of the arm.	Full of life; plays; very intelligent; very irascible; has killed on a voyage a man on board; afterward, at twenty-eight years of age had syphilis; died at thirty-eight years of age after having presented the following symptoms: alternating delirious ambition with terrific hallucinations, he wished to sell Austria and India; everything was in diamonds or gold; incoherence; difficulty in speech; unconsciousness. Diagnosis, "general paralysis."

THE DOCTOR AND GOOD ROADS.

THE sentiment in favor of improving country roads is growing every year. It has reached our legislative assemblies, and bills are being introduced in order to secure State aid in the matter. Good roads are things which no class of persons would appreciate more than physicians, and to none would they bring more direct personal comfort, and even practical financial help. On a good road the country doctor can travel ten miles an hour, on a bad one barely five. The time required in doing his work is doubled, the physical weariness is increased, the amount of visiting rendered possible is curtailed. Besides this, the patient suffers, for the doctor's visits are delayed and less numerous. He cannot watch the patient so closely, and he brings to his work a wearied body.

Perhaps the horse would argue most eloquently of all, if he could speak, in favor of good roads. His working life would be lengthened and his working days made easier.

With good roads the bicycle could be utilized, and through its invigorating influence, perhaps, the country doctor would cease, as years rolled on, to become obese from too much sitting in a wagon, his wits would be sharper, his professional work better.

By all means, then, let the doctors take up the gospel of good roads and urge forward their construction. They make intercourse more easy, work less burdensome, life more enjoyable; and they are in fine an index of the progressiveness and civilization of a community.

News of the Week.

The Mississippi Valley Medical Association will hold its eighteenth annual session at Cincinnati, Wednesday, Thursday, and Friday, October 12, 13, and 14, 1892.

The American Academy of Medicine.—The seventeenth annual meeting of the Academy will be held at the Hotel Cadillac, Detroit, Mich., beginning on Saturday, June 4, 1892.

Dr. Elbridge G. Seymour, of Hermon, N. Y., died of cerebral hemorrhage, at the St. Lawrence State Hospital, May 4, 1892, at the age of fifty-six years. Dr. Seymour was graduated at the College of Physicians and Surgeons, New York, in 1860, and located in practice at Redwood, N. Y. At the organization of the Ninety-fourth Regiment N. Y. Volunteers, he became Assistant Surgeon, and, later, Surgeon of the regiment, serving to the close of the war. Upon returning home he located in Hermon, where he has since resided, practising his profession and engaging in business.

Anniversary Dinner of Hospital Graduates' Club.—The seventh anniversary dinner of the Hospital Graduates' Club, of New York, was held at the New York Academy of Medicine, Thursday evening, May 19th. Dr. N. H. Henry, the President of the club, after some appropriate remarks upon the growth and prosperity of the organization, acted as toast-master. Speeches were made by the following guests: Drs. George F. Shrady, L. B. Banks, George B. Fowler, D. B. Delavan, Frank P. Foster, and W. K. Simpson; and also by the following members: J. E. Newcomb, John Ridlon, F. A. Manning, C. A. Powers, R. W. Amidon, and H. Locke.

Philadelphia Polyclinic.—At the last meeting of the Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine, an additional Chair of Orthopedics was created, and Dr. Benjamin Lee was elected Professor of Orthopedics.

The Epilepsy Bacillus.—The cable announces that Dr. Gerdes, First Assistant in the Pathological Institute of Halle University, announces that he has discovered vast numbers of specific bacilli in the liver, kidneys, and blood of persons who have died of epilepsy. He has experimented with the bacilli on mice and rats, and has found it to have invariably deadly effect.

A Correction.—In the description of a new electrode, etc., in the issue of the MEDICAL RECORD for May 14th, the references were incorrect. Fig. 3 represents the ordinary electrodes in use, while Fig. 2 represents the application of the new electrode with the neutral point thrown outside the body.

Dr. Charles A. Powers has been appointed one of the Visiting Surgeons to the New York Cancer Hospital, Eighth Avenue and 106th Street.

Dr. Frank Hartley has been appointed a surgeon to the New York Hospital, to succeed Dr. Thomas M. Markoe, who recently resigned after forty years' service.

Decision in Favor of a Quack.—The Virginia courts have decided, in the case of a notorious quack, that as he has no residence in the State, he is not compelled to obtain a certificate for registration from the State Examining Board. This renders the law ridiculous, as it subjects the physician who desires to practise regularly to a regulation from which the travelling quack is relieved.—*Times and Register.*

The Vegetarian's Heart vs. the Meat-Eater's Heart.—In the *Nineteenth Century* for April, 1892, Lady Paget, writing on the subject of vegetarianism, and in its defence, gives the following among several arguments: "While the meat-eater's heart has seventy-two beats in the minute, the vegetarian has only fifty-eight, therefore twenty thousand beats less in the twenty-four hours."

American Surgical Association.—This Association will meet in Boston, Mass., Tuesday morning, May 31, and June 1 and 2, 1892, in the hall of the Natural History Society on Berkeley Street.

Bequests to Hospitals.—The late William Astor left to the Woman's Hospital of New York, $10,000; to the Home for Incurables, $10,000; to St. Luke's Hospital, at Jacksonville, Fla., $15,000.

A Medical Organization for Social Purposes.—It is proposed to establish a club for social purposes, restricted in its membership to members in good standing in the *Regular Profession* of Medicine in Philadelphia. A modest club-house is to be secured in a central location, to be fitted up with chess-tables, billiard-tables, etc., where meetings can be held, committees have accommodations, and members may congregate for social intercourse. A reading-room is to be opened where may be kept on file the principal medical journals, the literary magazines, and journals of the day. It is contemplated to have occasional (monthly or bi-monthly) dinners, to which non-members of eminence may be invited. The fees and dues are to be moderate, ten dollars initiation at present, and annual dues of ten dollars.

The Man with a Musical Anus.—Some four or five years ago M. Verneuil exhibited to his class in Paris a case of what he facetiously denominated "musical anus." The patient was able at times, when sufficient flatus had accumulated in his colon, to evacuate it with some force, thereby producing a high-pitched musical note resembling that of a violin. On close examination he was found to have, in the cellular tissue about the lower end of the rectum, a pneumatocele, with an opening into it from the rectum, formed by a narrow slit between two thin folds of mucous membrane, which, acting like a reed, produced the sound when the air was expelled from the tumor by forcible pressure from above. Numerous cases of fistula and other deformities of the anus have been seen in which the expulsion of gas from the bowel was accompanied by peculiar sounds, some, perhaps, musical to the enthusiastic observers. But in all these cases there has been some deformity or malformation of the rectum or anus.

Dr. Baudouin, however, has lately reported, in the *Semaine médicale*, a case that may with justice be called one of musical anus, and one that is of much interest from a physiological point of view. The patient, or rather the exhibitor, is a man, aged thirty, well developed, but without muscular excesses, tall, of full weight, and, so far as can be made out, entirely free from any disease or deformity. His digestion is good, and he does not develop

an unusual quantity of gas in the bowel after eating. There is no pyrosis or abdominal tympanites. His fecal passages are normal, regular, and well moulded. The anus and rectum, in a state of repose, present nothing abnormal. The sphincter is moderately strong, but quite distensible, notwithstanding its daily exercise. The rectum is normal and not dilated. The remarkable feature of the case is that the lower bowel, at least, seems to be absolutely under the control of the man's will. He can empty it completely whenever he desires, a very fortunate accomplishment for his clothing and for the olfactories of his audiences. He was reared on the shores of the Mediterranean, and it was here that he first noticed his remarkable power. While bathing one day he observed, upon strong inspiration, the sensation of cold in his pelvis and abdomen, and at the same time felt the sea-water entering his rectum. In a short time he was compelled to empty his bowel, and noticed that he had taken in a much larger quantity than he had supposed. By practice in the ordinary bath and in the sea, he became able to store a considerable quantity of water, to retain it for some time, and to eject it with much greater force than at first. Later on he noticed that he could accumulate air in his bowel, as well as water, and by its expulsion could give rise to certain variations of sound. Applauded by his associates, who acknowledged his superiority in this class of exercise, he eventually developed the faculty beyond measure, and frequently gave exhibitions of his art before a select circle of his friends. From these reunions he began to exhibit his powers in the clubs and cafés, until he became the best known and greatest curiosity of the place. As his reputation spread he made journeys to the surroundings towns and villages, Béziers, Nîmes, Toulouse, and Bordeaux. At the latter place he was examined by many of the medical faculty, and it was found that he really could imitate certain musical instruments and emit certain popular melodies.—*New York Medical Journal.*

Obituary.

JOHN F. HAMILTON, M.D.,

SALT LAKE CITY, UTAH.

Dr. John F. Hamilton was born in Litchfield, Conn., December 22, 1830; he died at his home in Salt Lake City, April 9, 1892.

A graduate of Rush Medical College in 1854, his professional work covered a period of nearly two score years—a period crowded with activity and incident, on the frontier and in the Mormon capital, beyond the experience of most professional men. Born a New Englander, he became a thorough man of the West; but east or west, in whatever sphere of life, he would have become a leader.

He began the practice of his profession in Chicago, where his talent and attainments won the esteem of Professor Brainerd, then eminent among Western surgeons, who invited Dr. Hamilton to share his work in the Marine Hospital and private practice. At this time among his intimates were Byferd, Frae, Herrick, Edmund Andrews (his bosom friend), A. J. Johnson, and others since distinguished in the profession, of whom Dr. Andrews alone survives. With such a professional career as he desired thus opening to his ambition, his health unfortunately failed, and he was obliged to leave Chicago, and for a time abandon active work.

In 1856 he married Fidelia Belcher, daughter of an early and prominent citizen of McHenry County, Ill.

In 1860 Dr. and Mrs. Hamilton crossed the plains by wagon to the young city of Denver. The first hospital of Denver, on the site now occupied by the Windsor Hotel, was established by him during his first year's residence. At the outbreak of the war he became surgeon of the First Colorado Regiment, and subsequently medical director of the Army of the Plains.

In 1866 he removed to Salt Lake City, having been assigned to duty as Post Surgeon at Fort Douglas. In 1871, after his resignation from the army, St. Mark's Hospital for miners was established through his efforts, and continued under his charge until his death. Here he did memorable work, both in surgery and in the study of the various phases of lead-poisoning, so common among miners in this region.

His reputation throughout the inter-mountain region was deservedly great, and his field of practice extended from the Rockies to the Sierras.

In person tall and graceful, his countenance and manner expressive of kindliness, courtesy, and manly self-respect; in character bold, self-reliant, prompt and clear in judgment, with magnanimous scorn of everything base or petty, and generous to a fault; these qualities combined to give him a personal power or "magnetism" felt and acknowledged by all who knew him; and in his patients inspired boundless confidence. In the profession, while his writings were scattered and fragmentary, his counsel and aid were freely available to his medical brethren, and his judgment, whether in medical or surgical cases, was rarely at fault. He was particularly generous and helpful to younger practitioners, many of whom hold his timely words of encouragement in grateful remembrance. He assisted in organizing, and was the first president of, the Salt Lake Medical Society, then the only medical society in Utah, whose charter was amended for the purpose of honoring him by re-election to that office. He idealized his profession, and held it in the highest honor.

His ethical code was summed up in the principle—*noblesse oblige!*

PLINY EARLE, M.D.,

NORTHAMPTON, MASS.

Dr. Pliny Earle, who was superintendent of the State Hospital for the Insane in Northamptom, Mass., from 1864 to 1885, died there on May 18th, aged eighty two. He was at one time medical superintendent of the Bloomingdale Asylum, New York, and visiting physician of the New York City Lunatic Asylum, Blackwell's Island. Dr. Earle had a wide reputation for treatment of insanity, and made several trips to Europe and visited more than one hundred and fifty hospitals there and in America. He was called as an expert to examine Guiteau, the assassin of President Garfield.

Dr. Earle was identified with the attempts to treat the insane by humane and rational methods. His studies upon the curability of insanity were also scientific and valuable contributions, which did much to clear up the question of the efficacy of therapeutics as applied to the insane.

Dr. Earle is said to have been the first person who ever addressed an admittedly insane audience upon any subject that was not wholly religious in character, and his institution of lectures, combining instruction and amusement as a remedial agency, was regarded as a most beneficial innovation.

Doctors of Pharmacy.—The University of Munich has created a new degree—Doctor of Pharmacy—which will be granted after a course of seven semesters and examination in one principal subject, chemistry or botany, and in three secondary subjects, namely: mineralogy, physics, and zoology. An inaugural dissertation must also be presented.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 28, 1892.

GEORGE HENRY FOX, M.D., PRESIDENT, IN THE CHAIR.

Discussion on Questions Pertaining to Syphilis.—The questions discussed were: 1. Is it possible to favorably influence the course of syphilis by treatment during its primary stage? 2. What factors influence the severity of the disease? 3. What effect does syphilis exert upon the duration of life?

Is it Possible to Favorably Influence the Course of Syphilis During Its Primary Stage?—DR. J. A. FORDYCE read a brief paper on this subject. The question was obscured to some extent by the fact that the primary stage, with or without treatment, varied in severity in different cases, the full cause of which we did not know. It might be stated at the outset that we had every reason to believe that syphilis was of bacterial origin. He had observed in a number of instances that the early eruptions were severe when they followed an unusually large or œdematous initial lesion, and he had been led to believe that the amount of the virus in the initial lesion had much to do with the early manifestations of the disease. The extremes of youth and old age, and conditions impairing the general health, predisposed to a severe form of the disease. Syphilis not infrequently developed tuberculosis or rendered latent tuberculosis active. Alcohol hastened the evolution of syphilis. Chance alone seemed in the great majority of cases to govern the location of the lesions, whether in the bones, nervous system, etc., while in other cases the weaker parts seemed to be selected. If locomotor ataxia could be attributed to syphilis, this manifestation of the disease selected males for its victims. A number of syphilographers had explained the malignant cases of syphilis on the assumption that the seed was sown in new soil.

DR E. B. BRONSON also spoke upon the first question, Could we influence the course of syphilis by treatment during the primary stage? He said he had not been able to satisfy himself on this point. He would consider the question of treatment during the primary stage under two heads: 1, Preparatory treatment; 2, anti-syphilitic treatment. The former, preparatory treatment, was desirable in order to get the patient ready for the manifestations of the disease. There should be hygienic surroundings, the general health should be improved, one should look to the action of the emunctories—the skin particularly, for upon these the elimination of the poison depended. Attention should be given the teeth and mouth preparatory to the use of mercury.

Regarding the second question, he assumed that syphilis was primarily a local disease: could we, then, eradicate it by excision, etc.? He thought that with the evidence before us at present we must reply in the negative. He was speaking of the poison when it had affected the nearest lymphatics, not of immediate contact. But it seemed to him not at all improbable that by the introduction of mercury within the lymphatic district which corresponded to the region occupied by the chancre we could to a certain extent forestall the effects of the poison. He believed the poison entered by way of the lymphatics. The method which he suggested was by inunctions. He had formerly mentioned hypodermic injections, but his experience had taught him that this was not feasible. If the objections which had been offered by some to the use of mercury during the primary stage had any foundation, he thought they would not apply so forcibly to the local inunctions used as just recommended, the object of which was to attack the poison at its entrance to the system.

Objects to Treatment During the Primary Stage.—DR. EUGENE FULLER stated some objections to anti-syphilitic treatment during the primary stage, relating some experience in support of his objections. The two principal objections were that early treatment obscured the diagnosis, and that the patient would seldom persist with treatment unless the existence of the disease had been fully demonstrated. To show that even the best syphilographers might fail in diagnosis, he referred to two cases in which a lesion was pronounced by experts to be the initial lesion of syphilis, no treatment was instituted, there were no secondary manifestations, proving that there had not been syphilis. He could also relate a number of cases in which the regular course of the disease had been so interfered with by treatment during the primary stage, that afterward there was doubt as to the diagnosis, until paralytic symptoms appeared—symptoms which probably would have been avoided by persistent treatment.

Advises Early Treatment.—DR. W. K. OTIS thought the question of obscuring the diagnosis should have nothing to do with the treatment. As soon as one had made the diagnosis it was his duty to begin treatment by mercury. We knew that the initial lesion or other sore which might ordinarily prove rebellious would heal quickly under constitutional treatment by mercury. He believed secondary symptoms were largely prevented by immediate treatment. This was desirable, for few persons cared to lose their hair, eyebrows, and have disfiguring eruptions, and perhaps be kept home from their business, simply that the physician might be more assured of his diagnosis. As to aborting syphilis, he did not think it possible by any treatment in vogue, yet he would remove an initial lesion as a source of inflammation and discomfort to the patient.

DR. FULLER interjected that he thought Dr. Otis had put the case in an extreme light, for it was not necessary to wait until the eyebrows fell out, and other marked disfigurements occurred before one could be assured of the diagnosis, and thereupon could commence treatment.

What Factors Influence the Severity of Syphilis?—DR. S. ALEXANDER directed his remarks to this question. He would make two subdivisions of it: 1. What were the factors which favorably influenced the course of syphilis? 2. What were the factors which increased its severity? Regarding acquired syphilis, he thought it was more severe in childhood than in old age. Many of the statistics on this subject, and on others also, were misleading. His own experience had not been large enough, of course, to base upon it a positive answer to any of the questions under consideration. It was generally recognized that syphilis was milder in countries where it had existed longest. Idiosyncrasy had to do with the severity of the disease, as it had in small-pox, etc. The discussion on the influence of the rheumatic and gouty diathesis had been a warm one, some holding that they created a tendency to suppurative lesions, others the contrary. His own experience had been that in the rheumatic, the symptoms of syphilis had been mild, yet they had lasted long. Syphilis was worse under bad hygienic surroundings. As to tobacco, its influence was bad only because of the local irritation which it caused in the mouth. The mouth should be put in a healthy state, there should be no sharp broken teeth. As to alcohol, he advised hard drinkers to give it up because of the injurious effects on the general health, and lighter drinkers because of the irritation of the throat. Yet the moderate use of stimulants at the table by those accustomed to it need not be prohibited.

Irregular treatment, which was especially apt to be observed among patients who went from physician to physician, was bad. The symptoms were apt to be aggravated by measures which injured the general health. He also believed that the administration of large doses of iodide of potassium when it was not needed made syphilis severe. One of the greatest evils in New York was indiscriminate "mixed" treatment.

What Effect Does Syphilis Exert upon the Duration of Life?—DR. OSCAR H. ROGERS discussed this subject with

life insurance statistics as a basis. Out of three or four hundred thousand lives insured which he had been enabled to study, there had been fourteen to fifteen hundred syphilitics who had been cured from four to five years. It would require about ten thousand cases as a basis for conclusions which could be regarded as at all reliable. Out of the fourteen to fifteen hundred the mortality had been thirty-seven, which was rather high. The age at death of insured people for a considerable number was about forty-eight, whereas for these syphilitics it had been about forty-one. In other words, syphilitics had apparently lost about seven years of their life by the fact that they had syphilis although they had been "cured" for five years, at the age of thirty the probable length of their lives being, instead of sixty-five, fifty-eight; in other words, a loss of one-fifth of their longevity. The man of fifty years had lost one-third of his longevity, the probability being that he would live only to sixty-four instead of to seventy-one. Roughly speaking, the syphilitic had probably lost from one-third to one-fourth of his longevity.

Among the 17,000 deaths which he had studied among all classes of insured, he had found that 1 in 170 had died of paresis: whereas, among the syphilitic deaths, paresis was the cause in 1 out of 18. He had found nothing to show that syphilitics were more likely to be carried off by lung disease He hoped other physicians would add to these statistics.

DR. ROGERS thought the mortality from syphilis was greatest in continental Europe, then in England, then in the colonies, lastly in the United States. This was, he supposed, to be accounted for, either by the fact that syphilis was milder here, or else we knew better how to treat it.

DR. PAÛL GIBIER thought it likely the life insurance companies carried many more syphilitics than they supposed, for men did not always consider it obligatory to give a correct answer to interrogatories bearing on this subject. As syphilis was treated to-day, he thought it did not shorten the duration of life. The disease was more severe in new blood.

Be Sure of Your Diagnosis Before Instituting Treatment.—DR. P. A. MORROW thought it was generally admitted that under constitutional treatment during the first stage the initial lesion melted away faster, and the secondary lesions were deferred; there was, in other words, derangement in the natural order of the symptoms. Yet mercury used at this stage did not modify the intensity nor the duration of syphilis. A positive diagnosis could not be made at the primary stage, yet it was of very great importance to clear up any doubt, and for these reasons he objected to the use of mercury early. Special circumstances might justify using it during the primary stage. Regarding factors which aggravated the severity of syphilis, a number had been mentioned by Dr. Fordyce and by Dr. Alexander. Anything which diminished the constitutional powers had that effect. This was especially striking in charity practice. Injudicious treatment also aggravated the disease. If through idiosyncrasy a patient could not take mercury without poisonous effects, the use of the drug should be discontinued, and other measures be substituted. The same was true of iodide of potassium. There was no doubt but what a good deal of harm had been done by the excessive use of the iodide. The idea of attempting to expel syphilis by therapeutic violence should have no place in the rational therapeutics of to-day. But the most essential factor in aggravated syphilis was the peculiarity of the soil.

Treat Syphilis Early.—DR. C. W. ALLEN had held for some years that syphilis should be treated early—as early as the diagnosis was made. He performed excision of the initial lesion, hoping to modify the severity of the disease thereby. It was better to tell a man early that he had syphilis, than to wait for symptoms on which to base a positive diagnosis, allowing him meanwhile to go and infect others. The earlier the treatment of syphilis was instituted the more benign would be its course.

DR. GIBIER said regarding the supposed value of mercury when the drug was administered early, that he had seen some very severe cases of syphilis in persons who worked in factories, where mercury was employed, and whose systems were supposed to be fully under its influence. He thought that in the beginning tonic treatment was better than mercurial.

The Medical Examiners Bill.—Resolutions were passed, opposing legislation to exempt graduates of 1893 from the necessity for appearing before the State Board of Medical Examiners.

INDIANA STATE MEDICAL SOCIETY.

Forty-third Annual Meeting, held in the Plymouth Church, Indianapolis, May 12 and 13, 1892.

EDWIN WALKER, M.D., OF EVANSVILLE, PRESIDENT; E. S. ELDER, M.D., SECRETARY.

THE members of the Society and visiting physicians were handsomely entertained at the laboratories of Eli Lilly & Co. by the pharmacists. The Pharmaceutical Society was holding its meeting at the same time in Indianapolis.

Dr. Joseph Matthews, of Louisville, Dr. E. S. McKee, of Cincinnati, and Dr. R. B. Hall, of Cincinnati, were among the visiting physicians present.

Prognosis and Treatment of Asthma.—The first paper read was by DR. SEATON NORMAN, of Evansville, on this subject. He recommended the removal of patients to the mountains or seashore. Colorado he pronounced the best place in the country for asthmatic patients. For those who cannot change location he recommended cocaine. In some cases, brandy affords relief. In the discussion which followed, cocaine was strongly condemned. Asthma was pronounced the result of a reflex action, the real seat of trouble being in the nose, while it seems to be located in the lungs or bronchial region.

Rare Cases of Malarial Intoxication.—DR. H. O. PANTZER, of Indianapolis, read the above paper. The rare cases and abnormal conditions diagnosed in this paper were of great interest, and the discussion brought out the result of microscopical investigation of the cause and germs of malaria.

DR. JAMES F. HIBBARD, of Richmond, discussed "Inflammation—Past and Present," which was a well-considered paper, followed by much discussion.

"Etiology of Diphtheria," by DR. A. L. WILSON, of Indianapolis, was read by DR. POTTER, because Dr. Wilson had taken the diphtheria from the study of its germs in the preparation of his paper, and was under treatment at the City Hospital.

The President's Address.—The President, DR. EDWIN WALKER, called attention to a number of facts associated with the forty-three years' existence of the Society. Among others that it had accumulated no property of value in that length of time besides its "Transactions." He strongly recommended the establishment of a library. A small sum from each member would do this, and thus the history of medicine from the organization of the Society could be had without difficulty. Doctors could donate rare books, and before long a member would bequeath his library to the Society rather than have it auctioned off for a mere pittance after his death. Such a library would have to be established at Indianapolis, the home and meeting-place of the State Society, but all members are within a few hours' ride of this city, and for a small fee a librarian or some competent person could give an abstract of all articles on a particular subject, as is done in the Surgeon-General's office at Washington.

In this connection he offered another thought. The Society could fit up a bacteriological and pathological laboratory, and employ some competent men to make such examinations as are often necessary for a correct diagnosis. Busy practitioners are usually not prepared, nor have they necessary practice and skill to make such

investigations, and competent men for a reasonable fee could make such investigations as would make us more thorough in our work and better doctors. Let us work together to encourage the talents we have, and build up a complete profession in our State of which not only we, but our colleagues of the whole world, will be proud.

Prescriptions and Prescription-writing. — Following the address of the President came an address by PROFESSOR JOSEPH P. REMINGTON, of Philadelphia, on this subject. A part of the lecture was illustrated, examples of prescription-writing being thrown by a calcium light upon a screen. These showed some of the labors of the druggist in saving the populace from errors and mistakes. He said, in another year the new Pharmacopœia will be published. This is a law book of the land, and it is only through the co-operation of the physician and pharmacist, and through their arduous labors, that a thoroughly representative work can be secured.

Speaking of prescriptions, he said: What marvellous possibilities are bound up in that apparently insignificant scrap of paper covered with the mystical characters, which may, on the one hand, bring hope and happiness to those waiting at the bedside of the loved one, or which, if improperly interpreted or ignorantly compounded, fill the faithful watcher with grief and horror by inviting an onslaught from the grim monster. The medical profession are more deeply interested in pharmaceutical education than are pharmacists themselves. Upon the correct and intelligent rendering of their prescriptions rests the reputation, success, and honor of the prescriber. Pharmacy must be practised by educated, honest, faithful men, alive to the needs of the profession. The educated pharmacist is not the superior of the physician, neither is he his inferior, but he is his peer, and side by side they toil in their noble life work.

A strong beginning was made at the meeting of the American Medical Association last year at Washington toward the founding of a section of materia medica and pharmacy in that body. The position of the pharmacists as fellow-workers was thoroughly recognized by the physicians, and they were cordially welcomed. The second meeting of the section will be held in connection with the Association at Detroit next month.

Bacteriological Investigation.—DR. THEODORE POTTER, of Indianapolis, reported on the progress made in bacteriological investigation. He said that enough had been established to warrant the conclusion that the phenomena following infection are chiefly, if not wholly, due to the action of new products formed in the growth and multiplication of the bacteria.

Preternatural Sleep.—DR. N. N. SHIPMAN, of Seymour, read a paper on this subject, and reported the case of a boy, aged thirteen, whom he had attended, who slept for a month the first time. After that he had long periods of sleep, and on February 11, 1892, went to sleep for eighty-eight hours. He seemed all right for a day after this, then fell asleep for twenty-four hours. Since then he has been a normal boy, apparently well and hearty.

Xeroderma Pigmentosum.—DR. A. W. BRAYTON, of Indianapolis, presented a description of a case of xeroderma pigmentosum, otherwise known as Kaposi's disease, of which but sixty-seven cases have been known, and but three of these in the United States. The doctor has two of these cases in the same family, one a child aged eleven months, the other a girl aged sixteen. The latter was exhibited last summer at the Association of American Pathologists at Washington, and was pronounced the most typical case of the disease yet presented.

Other papers were presented on the following subjects: "The Purpose of Drugs," by Dr. C. S. Bond, of Richmond; "Tenotomy of the Recti Muscles," by Dr. J. O. Stillson, of Indianapolis; "Sympathetic Inflammation," by Dr. George F. Keiper, of Lafayette; "Emergency Laparotomies," by Dr. G. R. Green, of Muncie, and several others.

Election of Officers.—The officers for the coming year are: *President*, Dr. George F. Beasley, of Lafayette; *Vice-President*, Dr. C. H. Smith, of Lebanon; *Secretary*, Dr. E. S. Elder, of Indianapolis; *Assistant Secretary*, Dr. N. N. Shipman, of Seymour; *Treasurer*, Dr. J. O. Stillson, of Indianapolis. Standing Committees on Ethics, Publication, Arrangements, Bacteriology, Necrology, and Progress in Medicine and Surgery, were appointed by the President-elect.

The efficient Chairman of the Committee of Arrangements, Dr. F. C. Woodburn, was presented with an elegant operating-chair by the medical exhibitors. He was appointed Chairman for the ensuing year.

Correspondence.

THE HEALTH RESORTS ON THE RIVIERA.

(Continued from p. 500.)

VI.—ST. RAPHAËL, FRÉJUS, GRASSE, JUAN-LES-PINS, CAP D'ANTIBES, BEAULIEU.

(From our Special Commissioner.)

ST. RAPHAËL—HISTORICAL REMINISCENCES—PRESENT CONDITION—A FINE BEACH—A REVIVAL PREDICTED—BAD DRAINAGE—THE DRINKING WATER—A NEW MEDICAL ESTABLISHMENT. FRÉJUS. GRASSE: SITUATION—PERFUMERY—THE CLIMATE—PROTECTION FROM WINDS—SANITARY AFFAIRS—THE DRINKING-WATER—ANALYSIS OF GRASSE DRINKING WATER—THE GRAND HOTEL—INDICATIONS. JUAN-LES PINS: QUITE A NEW PLACE—EXTENSIVE PINE FORESTS—SANITATION AND WATER-SUPPLY. CAP D'ANTIBES. BEAULIEU: A SHELTERED NOOK—SOME WELL-KNOWN RESIDENTS—THE DRINKING-WATER—DRAINAGE—CLIMATE—PICTURESQUE SITUATION.

BEAULIEU, March, 1892.

THE present letter will be devoted to a number of winter stations which are less generally known than Nice and Cannes, but which nevertheless have certain pretensions to be regarded as Riviera health resorts. They are all smaller, and also much less expensive to live in, than fashionable Cannes, gay Nice, or quiet Hyères and Costebelle. But the hotel and villa accommodation is also more limited, and, in a general way, it must be admitted that house-keeping there is rendered more troublesome and less satisfactory.

St. Raphaël.—To properly appreciate this village or "town," if the local appellation may be borrowed, it is necessary to indulge in some looking backward. Every school-boy knows, or at least ought to know, that Napoleon landed at St. Raphaël in 1799, on returning from Egypt. In 1814 the same gentleman, under somewhat altered circumstances, embarked there for Elba. Plain Americans, however, whether returning from Egypt or not, usually try to crowd their embarking from St. Raphaël into the same day that witnessed their landing.

Not that the village, with its 4,000 inhabitants, is not prettily situated on an attractive bay; not that the air is not pure there, and at times heavily scented with the pungent perfume of the extensive pine-forests near it; not that there are no fine views and charming walks to be enjoyed in its immediate neighborhood. But because St. Raphaël strikes the average visitor as such a mournful, shabby-genteel, half-deserted, very much over-built sort of a place. It has evidently seen better days. But after a short-lived boom, when many glorious bubble visions were indulged in, the dandified little village has now apparently settled down to share, with near-by Fréjus, the reputation of once having been something. Yes, it must be owned, St. Raphaël is decidedly disappointing.

Nevertheless, its sandy beach has a very tempting look about it, and in summer time it is put to good use by

plenty of native bathers. During the winter season natives never bathe, as it has been found to interfere with the successful exhalation of waves of garlic. But an occasional hardy Britisher may be seen to enjoy chilly punishment there, by taking a daily dip throughout the midwinter months.

It takes about forty minutes by rail to get from Cannes westward to St. Raphaël. And it would seem to take most people less time than that to get away again.

But the spirit of the St. Raphaëlites has not yet been broken. They are busy again just now in talking and writing up their approaching revival. Unfortunately the lambent flame of this ardently wished-for millennium has only scant warming power to it. At all events it has not yet warmed up many outsiders to enthusiastic co-operation in the efforts to revivify St. Raphaël out of its state of suspended animation. Even the electric light does not do away with the sombre feeling of depression that perforce comes over you, as you see everywhere the signs of an ineffectual fight for public favor.

The drainage system of the place is thoroughly French, and equally primitive. Everything is allowed to run into the bay, laving the fashionable promenade.

The house-drains are generally poor. No proper safeguards against the entrance of foul gases into hotels and lodging houses exist. There are a few exceptions to this general statement, but not enough to make it appear in any way exaggerated. It is not an ill smelling village, however, on account of the winds that purify the atmosphere.

Of course, the mayor knows that the drainage needs attention. A new sanitary system is promised. But with increasing experience on the littoral, the conviction grows that some of these local mayors are forever making promises that are forever being not fulfilled. They need a good shaking up to make them realize that foreign visitors want immediate action rather than prolific promises. Otherwise the non-progressive towns will be deserted in favor of such places as manage to keep abreast of the times.

It is claimed that the drinking-water of St. Raphaël is pure. But as it is drawn from a well, and in the absence of reliable analytical and bacteriological proofs, it would be but prudent to have it thoroughly boiled before use. Here again we are promised a new supply, the source being a mountain current in the Esterels. The works are to be completed this year.

An institution for the treatment of anæmia, scrofula, neurasthenia, and other conditions of a "run down" character, has just been opened here. The physician in charge, Dr. Lagrange, is a combination specialist of the ozone and hydrotherapy variety. Anybody who has enough constitution left to survive scientific cold water treatment, with superadded ozonic inflictions, ought to live long and die happy. If he don't, it is a private affair and need not be given to the public.

Fréjus.—This old town, only two miles and a half from St. Raphaël, is a highly interesting place to visit, on account of the Roman ruins found there. Agricola, the father-in law of Tacitus, was born there, and more recently (four weeks ago) Gladstone spent a few days at Valescure, a short distance from St. Raphaël. That is quite enough distinction for this immediate neighborhood, and we will now proceed to Grasse.

Grasse.—The circumstance that Queen Victoria had her spring residence at Grasse last year, has suddenly lifted into prominence this quaint, sleepy, old-fashioned little place. Grasse is picturesquely perched on the southern slope of Mount Rocavignon, which rises some seven hundred feet above it. It is about twelve miles by rail in a northerly direction from Cannes. The inhabitants, to the number of some fourteen thousand five hundred, are chiefly given over to the incessant production of perfumery. Rose, cassia, heliotrope, violets, jasmine, verbena, jonquil, tuberose, orange, mignonette, and other blossoms are squeezed in myriad numbers, till dying, they render the rich perfume of their souls to avaricious man.

In this respect the Grassois differ materially from other Riviera natives, who restrict the squeezing industry to the guileless foreigner. Numerous Rivierese manage in that way to extract some flavor out of life, without any damaging amount of exertion on their part.

Grasse gets plenty of sunshine, but being inland and some one thousand feet above the level of the sea, its climate is tonic, bracing, and soothing, rather than stimulating and exciting. It is a little colder than the coast places, but the rise and fall of the thermometer is less abrupt. Hence it enjoys a more equable temperature than do some of the better known and more fashionable resorts. Grasse faces the sea, and enjoys a charming view over the lowlands running down to Cannes.

Spurs of the Esterel Mountains extend to the northwest, and in a northeasterly direction there rise the peaks of the Alps. The dust and mistral are therefore less trying at Grasse than at neighboring stations, though the mountains back of the village fail to give it that complete protection which has been claimed for it. It will nevertheless be seen that Grasse possesses certain advantages that entitle it to be more patronized than it has been, at least by real invalids.

Not much has been done in the way of recent sanitary improvements. But the cesspool system is always less objectionable in small villages than in large settlements, where human beings are herded together in close quarters.

The Grasse drinking-water, while not absolutely irreproachable, comes from two good sources. It is conducted in canals, one of which is covered. It is safer to boil it before drinking, but it is less calcareous than much of the Riviera water. The two sources are known as *La Foux* and *Le Foulon*, and the supply is more than abundant. From the excellent little guide to Grasse just published by "An English Resident," the following table is taken:

ANALYSIS OF GRASSE DRINKING-WATER.

One litre of water taken at the sources contains:

	Foux.	Foulon.
Degree hydrometric	18.2	18 c.
Organic matters calculated as oxygen from permanganate of potash	7 mg. 2	0 mil. 48
Chlorides	traces	traces
Nitrites and nitrates	nil	very slight traces
Combined ammonia and albuminoids	0 m. 2	003 mil.
Oxygenation	8 cc. 5	8 cc. 2

A more accurate and satisfactory analysis than this one, I was unable to obtain.

The Grand Hôtel was put in good sanitary condition by Mr. Best, of London, prior to the Queen's occupancy. Board and lodging are cheaper in Grasse than at the more favored resorts. Many interesting walks and excursions offer themselves to the tourist. But apart from that there is very little "going on." It is for this reason, perhaps, that Americans are as hard to find there as the proverbial needle in the haystack.

Invalids who do not prosper at the sea-side will do well to try the inland air of Grasse; and for some cases of nervous break-down the very dulness of the place should be a strong recommendation. At Nice and other cities the sick are constantly tempted to indulge in unhealthful occupations and amusements.

Juan-les-Pins.—Travelling eastward from Cannes, this is the next station after Golfe-Jouan (Vallauris) has been passed, and before Antibes is reached. While it is very little known at present, the Juan-les-Piners are hard at work to transform their sandy little desert into a real Riviera winter station. The place reminds the American visitor of a Western boom-town, all staked out into lots, with grand sites for buildings that do not yet exist, and

plenty of room for every conceivable convenience that has not yet had the good luck to materialize. But it is quite true that one does find beautiful specimens of umbrella-pines there. And then, again, people who take an absorbing interest in burying beetles, trap-door spiders, and other entertaining insects, will find plenty of opportunity to gratify their taste in that creepy direction.

Possibly the pine woods, together with the really fine sandy beach, will eventually commend Juan-les-Pins to some of the semi-invalids that inundate the whole Riviera region. But the place is evidently too much exposed to winds for the enjoyment of a permanent popularity. The boom which is being carefully nursed there will probably be but a short-lived one. There are too many more favored spots in the immediate neighborhood.

Sanitation and Water-supply.—From a sanitary point of view it must be admitted that the new work is being well done, both as regards house draining and general sewerage. The water-supply is abundant, but of the quality of the water nothing definite has been learned. The water looks clear and limpid, and is devoid of odor. It is pleasant to taste.

Cap d'Antibes.—This new place is seven miles east of Cannes. Of Antibes itself it is unnecessary to speak, as it can hardly as yet be classed among the health resorts of the Riviera. Antibes is a very old fortified place, but, like Juan-les Pins, it suffers too severely from winds to have much of a future as a health resort. People of slender means will find it a cheap enough place to live in, however.

Mr. Grant Allen has been very favorably impressed with another new spot some three miles distant from Antibes, and called the Cap d'Antibes. He says, evidently with some show of infatuation, that in addition to commanding the most beautiful views on the Rivieran coast, embracing at one glance the snowy Alps, the Esterel, the Bay of Nice, and the Golfe-Jouan, it is particularly adapted as a family health resort for autumn and winter. November there is charming. The Cape juts out into the pure sea some three miles or more from the town of Antibes; there is no dirty village close by, no doubtful drains, no regions of evil odors to be crossed before beginning one's stroll in the scented pine woods. Children have only to step outside the door to find themselves at once on the rocks of the sea-shore, or among unpolluted stretches of myrtle and lentisk scrub. In one word, they are here by the seaside and in the midst of the country; they can paddle and play with as great impunity in November and February as they could enjoy in England in fine August weather. He admits, however, that he does not consider the situation suitable for serious invalids, especially in advanced stages of phthisis. The Cape is breezy and airy, an admirable home for children or for adults who need sunshine and country walks and a warm southern climate. But very feeble people might find it too windy. At the same time, its intensely marine position, surrounded on three sides by the Mediterranean, makes a residence there much like passing a winter on a ship in genial sub-tropical seas; and the moisture in the atmosphere insures comparative freedom from the brusque changes of temperature experienced at sunset at Nice and Cannes. The spot, in short, has the usual equability of all peninsular climates. But it is a place, not for gayety, but for rest and quiet.

Mr. Allen mentions *en passant*, that he has no land for sale at Cap d'Antibes, and merely writes from the no doubt Quixotic desire to benefit his fellow-creatures. I have no information touching the purity of drinking-water there.

Beaulieu.—"Pretty spot," does not belie its name. It is also a relatively new place, at least so far as its pretensions to be considered a winter health resort are concerned. It is situated just east of the long, narrow peninsula of St. Jean. It is an admirably sheltered nook, famous for the size of its stately olive-trees. Some (though by no means enough) good sanitary work has been recently accomplished there. Quite apart from this, however, the place is evidently growing in public favor.

Some Well-known Residents.—The Marquis of Salisbury has erected a fine villa there, situated on an eminence above the village proper. Sir Frederic Johnson, of sporting fame, and an "intimate" of the Prince of Wales, has spent many winters there. Mr. W. K. Vanderbilt and family also occupy the Villa Vial there this winter. A certain class of Americans always take an absorbing amount of interest in such personalities; and I expect their physicians to thank me for posting them. Only they need not all write at one time, and besides I am moving about a good deal this winter, trying to keep up my circulation and increase that of the MEDICAL RECORD.

Beaulieu is only three and one-half miles by rail from Nice, and seven miles from Monte Carlo.

The so-called potable water of Beaulieu is carried in a branch of the open canal de la Vésubie. As this water is not considered fit for drinking purposes at Nice, except after thorough boiling and filtration, these precautions should surely not be neglected by intending residents and visitors at Beaulieu.

The cesspool system here is not yet very objectionable, because the dwellings are far enough apart. In some of the houses a perfectly sanitary drainage system exists, but most of them require radical alterations to make them safely habitable. The few hotels are only in fairly good condition, and would be much improved by a thorough overhauling.

The situation of Beaulieu is such as to make it a more sheltered resort than Nice or Cannes. Accordingly it is rather warmer than those places, and its vegetation approaches more nearly the tropical character. For this reason it is often spoken of in these regions as "la Petite Afrique."

The Mediterranean forms a pretty bay at Beaulieu—in fact the original site of the place is a little promontory jutting out between two rounded bays. Black gives the following good description of the appearance of Beaulieu: "It is protected on the north by a range of gigantic cliffs (with patches of strata of reddish sandstone), the edges of which are fringed with trees; while below, groves of stately olive-trees cover the base and struggle as far up as they can by the fissures in the rocks. On the plain are orchards of orange and lemon trees and nursery gardens. Trees and tall shrubs hang over the edges of the abrupt banks, which enclose the tiny creeks and bays bordered with diminutive sandy beaches, or with long ledges of marble rocks dipping gradually down into the deep blue water, carpeted in some places with the thin flat siliceous leaves of the Posidonia Caulini, a Naiad not an alga, which covers the shore of the Mediterranean, and of which great accumulations are seen thrown up at various parts. It makes a poor manure, but prevents in some degree evaporation.

Disinfecting Food.—The Governor-General of Kiév appointed committees last fall to gather the morsels that are left on the table after meals in the large cities, and to send them to the famishing peasants. A large portion of this food comes from communal institutions, such as casernes, hospitals, and from social repasts. The question arose whether it would be possible to disinfect these fragments so that the contagious diseases of the eaters who left them on the table might not be conveyed to the beneficiaries without at the same time destroying the food. The question was referred to the Bacteriological Institute of Odessa, and the following instructions were received in reply: "Morsels of bread left over by persons infected with diphtheria, typhoid, or other contagious diseases, become perfectly disinfected if dried at a temperature of 250° F. But if such a degree of heat cannot be obtained in the drying process, the morsels, before drying, must be submitted to a current of steam of that degree for at least one hour."

THE ANCIENT HISTORY OF A NEW NEEDLE.

To the Editor of the Medical Record.

Sir: Probably "there is nothing new under the sun" in surgical needles, if we should look the subject up in Cheselden's "Armamentarium," or in ancient collections, and it is largely the fault of instrument-makers that old instruments are so often re-invented.

Grooved needles were devised by English and French surgeons before Professor Peaslee's time, but I think the first cannulated needles, made by boring a solid needle, straight or curved (Cleborne's tenacular needle), were made by G. Tiemann & Co., of New York, about twenty years ago, and still appear in the catalogue of that firm.

J. L. Mann, M.D.

Chelsea, Mass., May 13, 1892.

To the Editor of the Medical Record.

Sir: In your issue of May 14th I read the comments of Dr. Hahn and "Velus" on my hollow needle. Both mention needles of similar construction having been in use for years. I had never seen or heard of such an instrument when I devised this needle. It is singular that it never came into general use, since it is simple in construction, and I never had an instrument that gave better satisfaction for the purpose designed. Surely the clumsy knot in the silk forcibly dragging a loop of the wire through the tissue seems to me unsurgical, to say the least. Among all of the medical men to whom I showed this needle not one mentioned having seen one like it. While to me the idea was original, if to anyone else is due the credit of the device, by all means let him have it.

George Place Clements, M.D.

THE VIRGINIA MEDICAL LAW.

To the Editor of the Medical Record.

Sir: In your issue of May 7, 1892, you quote from the Boston *Medical and Surgical Journal* an erroneous statement to the effect that the Virginia law "regulating the practice of medicine and surgery," has been pronounced unconstitutional by the Supreme Court of Virginia in a case in which the Medical Examining Board recently prosecuted a Boston quack. The facts are as follows: This quack was prosecuted in the Hastings Court of Richmond City, and not the Supreme Court, and the case was decided against the Board upon the ground that the law was defective in that it failed to make specific provision for the registration of certificates of non-residents. The Court distinctly affirmed the constitutionality of the law in a letter to the President of the Board, setting forth the basis and scope of the decision. I quote the letter (Judge S. B. Witts) above alluded to, bearing date of April 14, 1892:

"1. I decided that the Legislature of the State has a right to pass laws regulating the practice of medicine in this State. Such a law comes clearly within the police power of the States.

"2. That the Legislature has a right to require non-residents to comply with the terms upon which it allows citizens of our own State to practise (129 United States, Dent *v.* West Virginia).

"3. That the Legislature not having provided a place where the non-resident physician may record the certificate required by law as a prerequisite to obtaining a license for practising medicine, etc., has imposed upon him a condition which it is impossible for him to perform, and therefore discriminates against him, such a condition amounting, in fact, to prohibition."

Such is the basis of this decision, and it cannot possibly apply in any other jurisdiction than that of the city of Richmond.

Some of the ablest lawyers of Virginia state that they believe the decision would be reversed by the higher courts.

This decision only applies to transients, and the law remains in full force with that single exception.

Jacob Michaux, M.D.,

Secretary Board of Medical Examiners of Virginia.

Richmond, Va.

New Instruments.

SOME NEW ADDITIONS TO THE ARMAMENTARIUM OF THE ELECTRO-THERAPEUTIST.

By A. Wilbur Jackson, M.D., F.S.Sc. Lond.,

Member of the Electro-Therapeutical Society, Paris, France.

Those practitioners who are accustomed to using electricity know how very large a field for improvement exists, both in the matter of instruments for administering the current, and in the means at our disposal for generating the same. In this short article I mean to put before the readers of this journal, in as brief a manner as possible, a description of some electrodes which I have had made for my own use, and which I believe will be appreciated by those members of the profession who may require such instruments.

Fig. 1 represents a combination hypodermic and aspirating syringe, with modifications. The cannula and needle, though represented in the figure, are not used by me. First, then, A is a binding-post for the positive reophore, leading to the battery; B is an extra long hypodermic needle, insulated to within a short distance of the point; D is a rubber sleeve, to be grasped by the fingers, insulating them; and E is a rubber button by which the piston is operated, thus insulating such parts of the operator's hand as would otherwise be exposed to the current. This instrument I have used in sciatica chiefly, putting the needle down upon the nerve, injecting slowly a preparation modified according to circumstances, and then turning on my current. Any further explanation would be superfluous, as such of the readers of the Medical Record as would care to use this instrument will at once appreciate its value. The negative electrode is placed under the corresponding foot and the cataphoric process is at once set up as soon as the current is turned on.

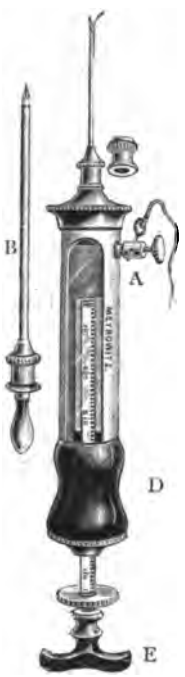


Fig. 1.—Jackson's Galvano-Hypodermic Syringe.

Fig. 2.—Jackson's Intra-Uterine Electrode for Plaster Tip.

Fig. 2 represents an intra-uterine electrode for positive cauterization or any other purpose for which the gold or platinum intra-uterine electrode has been used. A is a rod of No. 16 flexible wire, running snugly through the rubber sleeve, C. On one end of this wire is the socket for the rheophore tip, and above the tip is a sliding stop with binding screw, thus enabling one to adjust the wire tip to any length desired. The free end of the wire can be bent to any curve or shape desired. When adjusted, the operator has at hand a small saucer or cup, containing plaster-of-Paris mixed to a proper consistency with

water, and into this the tip of the electrode is dipped until enough adheres to it to be moulded by the fingers into proper shape for the purpose required. After this is done, the instrument should be laid aside until the plaster has attained the requisite hardness, when it is smoothed off with a little emery paper and is ready for use. If any medicament be required, such as ergotole, or any other fluid, the plaster may be charged with a given quantity, which it will readily absorb, and by cataphoric action "drive into" the tissue, as the snowy whiteness of the plaster when withdrawn will readily prove. If no medicament be used, the plaster, if very hard and dry, should be moistened with a little water. When the treatment is finished, the plaster is stripped off, the wire made aseptic with a bichloride solution, and it is ready for use once again. Thus each treatment is given with a perfectly new and clean electrode, and the diameter of the active portion of said instrument, as well as the depth of its insertion, etc., can be made just as the operator desires. To say nothing of the cost of the gold and platinum electrodes, this device will make intra-uterine work much safer and more efficacious.

Fig. 3 represents a common zinc electrode-disk, such as are used for sponges or absorbent cotton. With

FIG. 3.—Electrode for Cataphoresis, Plaster Covered.

such a disk, covered with plaster to a desired depth, and of a proper consistency, the writer makes his electrodes for cataphoresis. As directed in forming the intra-uterine plaster electrode, the plaster should be moulded about the disk to the thickness of about one-eighth of an inch. When nearly hardened, the medicament is dropped upon it as upon the sponge or paper disks, and the instrument is ready for use. When the treatment is finished, the plaster is broken away and a new one made for the next time.

These devices have been in use by the writer for some time and answer their purposes fully, though I have no doubt but some reader of the MEDICAL RECORD will improve greatly upon each one of them.

The Messrs. Vetter & Co. made the second instrument for me, and the Messrs. Meyrowitz made the first one.

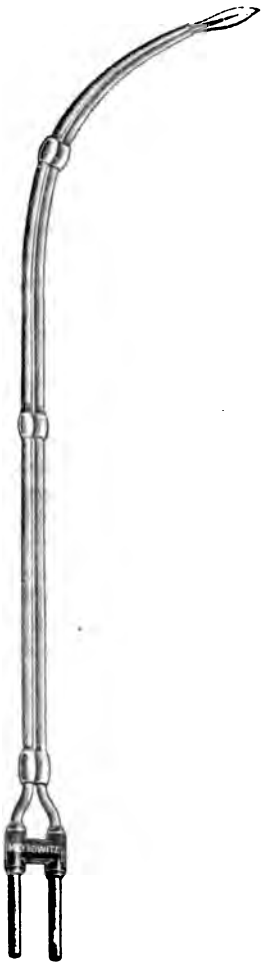
Anything regarding either of these electrodes that may require further elucidation will be explained with willingness if the inquirer will address his queries through the columns of this journal to the writer.

Hot Springs, the Doctors, and the Touters.—The following circular was adopted by the Hot Springs City Council, March 1, 1892: "Don't listen to any one who volunteers advice about doctors. No regular physician will require more than $5 in advance. If you have letters to a physician, deliver them in person. If drummers find you have such letters, they will tell you the doctor is out of the city, dead, quit practising, drunk, or something of the kind. Drummers on the trains, on the streets, or at the hotels or boarding-houses will pretend that they are visitors."—*Weekly Medical Review.*

Vaccination in Italy.—The *Sanitary Inspector* states that a new vaccination law went into effect in Italy with the beginning of this year, which requires that every child shall be vaccinated before it is six months old, and again at eight, or at any time whenever the sanitary authority deems it necessary to promote individual or public safety. Those who are not vaccinated and revacci nated according to the requirements of the law, are excluded from schools, factories, workshops, benevolent institutions, etc. Provision is also made for the cultivation and supply of both animal and human lymph. This has a direct interest for people in this country in view of the large and constantly increasing Italian immigration.

A NEW NASAL ELECTRODE.

BY LEONARD A. DESSAR, M.D.,
NEW YORK.



THE risk of infection from the use of the ordinary cautery electrodes led me to the idea of devising an instrument by which this danger might be obviated.

Mucus and pus are apt to collect on and about the binding cords of the ordinary electrode and so become a source of infection, as it is almost impossible to cleanse these instruments thoroughly.

At my suggestion the Messrs. Meyrowitz have constructed a set of electrodes made of metal which, when not in use, may be immersed in a solution of carbolic acid or other disinfectants and thus rendered perfectly aseptic.

Another advantage of these electrodes is the fact that they can be heated to the proper degree with a weaker electrical current than those in ordinary use. The instruments are made of copper, nickel-plated, and the shafts are united by two metal bands, the insulating material used being ether fibre, asbestos, or ivory.

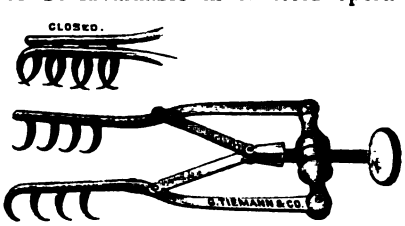
The idea first presented itself to me in Vienna last summer, and I am indebted to the instrument maker, Marconi, of that city, for a number of valuable suggestions regarding the manner of its construction.

SOME NEW EAR INSTRUMENTS, WITH REMARKS ON THE TREATMENT OF CHRONIC PURULENT INFLAMMATION OF THE MIDDLE EAR.

BY FRANK ALLPORT, M.D.,
PROFESSOR OF CLINICAL OPHTHALMOLOGY AND OTOLOGY IN THE UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINN.

I DESIRE to call the attention of the profession to a modification of a recent instrument, and to two new ones.

Some time ago I published a short sketch of what I termed a "Mastoid Retracting Speculum." Since then this instrument has been frequently used by myself and others, and proved to be invaluable in mastoid operations. Having altered the handle, or screw-head, I take the liberty of again bringing it to public notice.



Less than actual size.

As originally made, the handle or screw-head was round. It was found that when the arms of the instrument were engaged in the wound, the round screw-head did not permit of its utmost expansion. This was undesirable, as the wider the arms were opened the larger became the field of operation, and the more thoroughly the hemorrhage was stopped; consequently I have caused the screw-head or handle to be made flat. It will be seen at a glance that this gives much more power to the instrument, and materially increases its usefulness.

Allow me to call attention again to the method of using this instrument, and to some of its advantages. In making a mastoid operation it is desirable that the two flaps made by the incision be forced widely open, in order that the work upon the bone may be kept well under observation. The arms of the speculum can be closed or opened by the screw-button at the base of the instrument. The hooks are made to interlock nicely, so that they can be introduced into quite a small aperture. The hooks have sharp, but not cutting, points, and the whole instrument is made strong and short, in order that considerable force may be used in opening the blades, which may become necessary in case of great thickening or swelling of the tissues over the mastoid process. The instrument may be introduced into the incision with its base either up or down. When thus introduced and widely expanded, and the parts wiped as dry as possible, a fine view of the underlying bone may be obtained, and the ease of the operation much facilitated. The wide expansion of the blades renders the operation practically bloodless. I am quite positive that anyone who has used this instrument once for a mastoid operation will never operate without one. It is so easily handled, so simple, so practical and useful, that it is really indispensable. With a modified handle I regard it as a perfect instrument. I will remark in passing, that this instrument would be exceedingly useful in any operation in any part of the body where we wish to hold open a wound. A large instrument made upon this model would be valuable for holding open the incision in a laparotomy. It can be modified to be used anywhere, for holding open incisions, and I am confident might be invaluable.

The speculum, as well as the other instruments spoken of in this article, are made for me by Tiemann & Co., of New York.

The second instrument to which I desire to call attention, I have called a "Round-pointed Ear Hook." It is exceedingly useful for a great variety of purposes, but was originally designed by me to facilitate the removal of carious ossicles. It seems difficult to understand why chronic suppurative inflammation of the middle ear should not be treated on much the same general plan that controls the treatment of other suppurating cavities or surfaces. The cardinal points in such treatment are the removal of all unhealthy products and the keeping of the parts in as nearly an aseptic condition as possible. These aseptic principles, it is to be regretted, are often neglected in the treatment of chronic purulent inflammation of the middle ear. The aurist is too often satisfied with following a stereotyped plan of procedure. This consists in cleansing the ear with a syringe and some antiseptic fluid, and then drying the parts. This is followed by the insufflation of some antiseptic powder, such as boracic acid or iodoform. Any polypi that may show themselves will be very properly removed and their bases cauterized. Any necrosed bone that may be especially prominent will be removed or touched with some bone-destroying remedy, such as aromatic sulphuric acid. This, in brief, is the usual plan adopted in the treatment of such diseases, and in a proportion of cases it may be quite sufficient to produce a slow but satisfactory termination of the case. But in a large percentage of such cases the result is unsatisfactory to both patient and physician. An apparent cure may be effected and the patient dismissed, only, however, to return after a while with a full recurrence of his trouble. Or a patient may be treated month after month with ordinary methods, without effecting a cure, or even an apparent cure. The trouble with these cases will usually be found to be hidden necrosed bone. Its removal will generally effect a speedy and permanent cure.

At the commencement of treatment of chronic suppurative inflammation of the middle ear, a thorough and painstaking examination should be made. It would hardly seem necessary to urge this principle, and yet the careless and routine method of examining such cases, employed by many physicians, seems to render it important to advocate an accurate diagnosis before further steps are taken. The examination should include not only what can be seen by the eye, but should extend into the middle-ear space, with special reference to that portion of the middle ear known as the attic. It is here that serious trouble will be found in a great many cases. The malleus, incus, and stapes may be found necrosed, and treatment may continue interminably until this element of disease is eliminated. The malleus is most frequently necrosed. These diseased points must be searched for diligently, and for this purpose straight and bent probes must be employed. The latter will be found especially useful in searching for necrosis in the attic of the middle ear. The little probe that comes on the other end of an ear-spoon answers a very good purpose in these cases, and when used carefully and turned in every direction, will usually find the diseased bone if any exists. It is, of course, in hidden parts of the middle ear that necrosed bone does the most injury, because, owing to its obscure position it is usually overlooked. The necrosis that presents itself in easy view does but little harm, as it has already nearly loosened itself from the deeper parts, and will either come away by itself, or be easily picked away with the forceps.

In old cases of chronic purulent inflammation of the middle ear, the little bones are exceedingly prone to necrosis, and they have a tendency to pull themselves together. As this contraction progresses, they sink toward the inner wall of the middle ear, and are often deposited in the extreme upper and inner part of the attic, where they may be felt as an irregular, necrosed mass. Sometimes this huddling together of the little bones occurs even though there be no necrosis present. In this event, they are still a source of irritation, may be quite easily felt with the bent probe, and should be removed. In this position necrosed bone does great damage, and must inevitably produce and retain a foul and unhealthy purulent discharge. It certainly appeals to good judgment to advocate the removal of this mass before the cure can be expected. Surely no surgeon would expect to cure a diseased joint until the necrosed bone present was destroyed, and yet physicians are daily endeavoring to cure suppurating ears, without first making an accurate diagnosis, and afterward removing any necrosed bone present.

The researches of Sexton and others are exceedingly valuable, in that they have called attention to this more scientific method of treatment, but the methods employed by them are so painstaking and elaborate as to dissuade surgeons from operating. I have operated upon many such cases and have obtained good results, and yet the method pursued by me is so simple as to discourage no one. I operate on such cases without any elaborate preparation, without general anæsthesia, without a large assortment of instruments, and with but very little pain and discomfort to the patient. Such cases are operated upon by me in an upright position with cocaine anæsthesia, and, so far as I can see, my results are equal to the published records of Sexton and others. To facilitate this operation I have devised the "Round pointed Ear Hook," already mentioned, a cut of which is here shown.

The handle is represented as broken. Otherwise it is of actual size.

The malleus is removed with comparative ease, and as it is the bone most frequently necrosed, the facility of its removal is quite fortunate. Oftentimes this is the only bone diseased, and its loss will then be followed by a cure.

All that is usually needed for its removal is a narrow knife with which to circuitously incise the drumhead, in order that the bone may be loosened in its attachments. The ear hook is then introduced behind the drumhead and

malleus, and its point forced as high up in the attic of the middle ear as possible; the hook is then firmly and steadily withdrawn, keeping the point up as high as possible. The malleus, and occasionally the incus, will be found to come with it. The bone, or bones, may then be withdrawn by means of Sexton's admirable ear-forceps, or my "Smooth Ear Curette," referred to later in this article. The incus is more difficult to remove than the malleus, and its extraction is frequently unnecessary; but, if its removal is deemed advisable, it will usually be found lodged high up in the attic of the middle ear. The extraction of the malleus will, however, somewhat loosen its attachments, and by means of the ear hook it can be coaxed down into sight, and then withdrawn by means of the forceps or curette. The stapes is much more difficult to extract than either of the other bones, and it is usually advisable to leave it alone. It is very small, and if carious, will usually either be absorbed, or else some day, during the course of treatment, will drop down into view of itself, and can be easily extracted. This operation should be followed by daily treatment, consisting largely in syringing and antiseptic powders, and will usually result in a speedy cure.

Less than actual size.

It will be noticed that the ear hook is round-pointed, in order to avoid scratching or tearing the parts. Its point is bent backward, so as to facilitate the removal of bone, foreign bodies, etc., and is rather long, so as to enable it to be placed high up in the attic, or other obscure places.

The ear hook may be used as a sort of general utility instrument in the ear, for the purpose of picking away various products, such as inspissated cerumen, desquamated skin, etc., but is especially useful where such products are retained in spaces above or below the direct line of the meatus. In such cases the point of the hook may be thrust to the bottom of the hidden place, and the wall gently scraped with the round point in such a manner as to afford a thorough cleansing of the parts.

Another instrument that I have devised, and found useful for the extraction of various foreign bodies from the meatus and middle ear, is what I have termed a "Smooth Ear Curette." It is simply a smooth wire loop, placed upon the end of a delicate handle, as seen in the engraving. Cases are often observed where the meatus needs to be cleansed of various foreign substances, where the use of an instrument with a sharp or cutting edge would be undesirable; in such cases this little instrument will be found of practical utility.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 21, 1892.

	Cases.	Deaths.
Typhus fever	2	0
Typhoid fever	13	5
Scarlet fever	233	27
Cerebro-spinal meningitis	8	8
Measles	807	38
Diphtheria	131	35
Small-pox	9	1
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

The Itching of Eczema is relieved, according to Shoemaker, by the frequent application of equal parts of lime-water and glycerine.

Fowl Language.—The *Boston Medical and Surgical Journal* says that M. du Haudray, following the method of Professor Garnier's studies of the Simian language, has carried his phonograph into the hen-coop. He places it in one hen-house where the "family" are at home, and when the receiver has been cackled into for half an hour it is taken away, and made to repeat all the gossip in a neighboring hen-coop. The results of the experiments are said to be marvellous, and the Académie des Sciences is awaiting a lecture on the subject with the greatest interest.

The Foot-ball Casualties in England during the season of 1891–92 amounted to eleven deaths and seventy injuries. This is worse than the prize-ring.

A Folk-Lore Remedy for Enuresis.—A surgeon in Hampshire writes to the *British Medical Journal* that he was consulted by a mother concerning her little boy who suffered from nocturnal incontinence of urine. She said that before consulting the writer she had, on the advice of an old nurse, caught a mouse, killed it, roasted it, and given it to the child to eat, and that the nurse informed her the remedy was an infallible one, a dictum which the events of the next night disproved. She did not tell the child the nature of his meal, which he ate and enjoyed very much. The mother in question did not belong to the uneducated classes.

The Use of Vaseline.—Dr. Novotny warns against the use of vaseline as a lubricator for sounds and other instruments introduced into the bladder, as he has twice found this insoluble vaseline serving as a nidus about which a mass of detritus had collected, and giving opportunity for the deposit of urinary sediment. In one case the quantity of detritus thus massed together upon a quantity of vaseline weighed ten grammes.—*Memorabilien.*

BOOKS RECEIVED.

A Treatise on Diseases of the Nose. By Grenville Macdonald, M.D. Second Edition. 8vo, 381 pages, illustrated. Macmillan & Co., New York.

The Dietetic Value of Bread. By John Goodfellow. 12mo, 328 pages, illustrated. Macmillan & Co., New York.

A Treatise on Bright's Disease of the Kidneys. By Henry B. Millard, M.D. Third Edition, revised and enlarged. 8vo, 322 pages, illustrated. William Wood & Co., New York.

Chirurgische Technik. Von Dr. Fr. von Esmarch und Dr. E. Kawalzig. 12mo, 372 pages, illustrated, paper. Lipsius & Tischer, Kiel.

Transactions of the American Orthopedic Association. Fifth Session. Volume IV., 8vo, 403 pages, illustrated.

The Science and Art of Midwifery. By William Thompson Lusk, A.M., M.D. New edition, revised and enlarged. 8vo, 761 pages, illustrated. D. Appleton & Co., New York.

Outlines of Zoology. By J. Arthur Thomson, M.A. 12mo, 641 pages, illustrated. D. Appleton & Co, New York.

Diseases of the Eye. By G. E. de Schweinitz, M.D. 8vo, 641 pages, illustrated. W. B. Saunders, Philadelphia, Pa.

History of the College of Physicians and Surgeons in the City of New York, Medical Department of Columbia College. By John C. Dalton, M.D. 8vo, 208 pages, illustrated.

Transactions of the American Pediatric Society. Third Session. Volume III., 8vo, 256 pages, illustrated.

Diseases of the Nervous System. By J. A. Ormerod, M.D. 12mo, 343 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

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Original Articles.

INFLUENZA AND THE LATEST BACTERIOLOGICAL RESEARCHES.[1]

BY F. J. THORNBURY, M.D.,

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AN attempt at tracing influenza to its origin embraces a review of the history of medicine and an encounter with its various decades in pathology and therapy. The disease has prevailed through many centuries, and is said even to have been known to Hippocrates. Others again claim that not until the time of Sydenham have we fully authenticated accounts of its existence. The occurrence of an epidemic, however, about the middle of the eleventh century, can be fairly well substantiated, and recorded in medical history are accounts of subsequent epidemics, recurring at intervals varying from two to seventy-five years up to the present decade.

It is stated in many instances that the disease came from Asia, usually Siberia, crossed over to Russia, and from there disseminated itself over the whole of continental Europe and the British Isles, after which it reached America, Australia, the East Indies, and, finally, all parts of the globe.

Usually with great rapidity have the individual epidemics progressed. Climatology, meteorology, and barometrical influences, coming after a long list of absurd hypotheses, were invoked by the ancient contemporaries to explain the occurrence and rapid spread of this mighty malady. Striking accounts as to extent and mortality are given in the annals. During the epidemic of 1580, which occurred in both of the world's hemispheres, hundreds of thousands were prostrated. In Rome two thousand people are said to have died on the first day of the invasion.

In 1675 Sydenham wrote of influenza: "It spread from east to west over the whole earth, and coughs prevailed to an extent never before seen in my existence—no one escaped, whatever might be his age or temperament, and it ran through whole families at once."

In the epidemic of 1729 and 1730 Vienna had 60,000 cases, Rome, 40,000. In London 908 deaths occurred in one week.

The influenza which announced itself with the beginning of the eighteenth century prostrated five-sixths of the inhabitants of Poland and other countries of Central Europe. One hundred and twenty-three cities of Great Britain were visited, and the disease made great havoc among the aged and infirm. There are nervous, catarrhal, and gastric forms described, many relapses occurred, and often serious complications ensued.

I find accounts of forty-two different influenza epidemics in all, extending over a period of about five hundred years. One epidemic of the seventeenth century was described by seventy eight different writers. Fothergill was the American exponent.

With this brief synopsis of the history we come now to the recent epidemic of 1889, 1890, and 1891. In the summer of 1889 influenza began in Siberia and reached St. Petersburg in October. Here 150,000 of the inhabitants were attacked, the schools had to be closed, and business was suspended. Some cases assumed a typhoid, others a meningeal, character, and confusion occurred in diagnosis. In Berlin, January, 1890, of 170,318 school children, 11,532 had influenza. Measles, pertussis, scarlet fever, and diphtheria were conspicuously absent, and seemed to have been swept away by the influenza. In all the capitals of Europe the disease became prevalent—the approximate proportion of the population actually affected was finally placed at one-third to one-half per cent. In Vienna there were 450,000 cases. In Paris, of 1,200 cases reported to the Health Office in one day, 1,050 were influenza. In Madrid, Spain, there were 20 000 cases, and more deaths than during the cholera epidemic of 1885.

Isochronous the disease occurred in America; ships on the open sea were attacked. One vessel, five days from Yokohama, had an epidemic on board. Remote islands were visited.

A tendency toward pandemicy and quite close confinement to certain localities has often been manifested by influenza. At Chicago, during the winter of 1890 and 1891, the disease was most violent and disastrous, especially among the laboring classes. Sixty deaths are said to have occurred in one day. At Buffalo the disease also prevailed extensively, while intervening Cincinnati enjoyed a partial temporary immunity. Of over five thousand cases which I examined at the Cincinnati Hospital during the year, but eighty-seven were cases of influenza, and only forty of these sufficiently severe to require admission to the hospital.

With reference to the etiology of influenza, it occurs in all zones and all climates and at all seasons of the year, showing a predilection, however, for fall, winter, and spring, and the temperate zones. People of all ages and occupations are eligible to the disease, and it shows no particular preference for either sex, although males are probably more often attacked, as they are more exposed. As to the actual specific cause, we have it in the recently discovered bacillus. The latter is as firmly established as most of the facts which we have in medicine. The germ has been seen, isolated, cultivated, and inoculated by two of our most ingenious bacteriologists. Their observations have been corroborated by the Father of the Science.

In every case of a series examined by Richard Pfeiffer this bacillus was found present in the sputum and in the protoplasm of the cells of the bronchial exudate. The numbers of bacilli present are in direct proportion to the degree of pyrexia. As the symptoms of the disease subside, the bacilli also disappear, and are not to be found after there is fever. They penetrate into the peri-bronchial connective tissue, and may even aggregate in pure cultures on the inner surface of the pleura.

The influenza bacillus is of very diminutive size, being only one-half as long as the septicæmia bacillus, but having about the same thickness. With diluted Ziel's solution and heated Loffler methyl blue, it may be stained very readily, as will be seen in the specimens presently to be demonstrated. The germ grows best in sugar-agar, one and one-half per cent., and may be cultivated to the fifteenth generation, as has been done by Kitasato. The colonies appear as minute watery drops along the streak of inoculation. In bouillon the bacillus grows scantily and gives evidence of its immotility by the fluid remaining clear. In gelatine it cannot be cultivated, owing to the higher temperature which it requires. (Gelatine melts at 28° C.)

Canon, at Moarbit Hospital, Berlin, has found this ba-

[1] Paper read before the Alumni Association Medical Department of Niagara University, Buffalo, N. Y., May 2, 1892.

cillus in the blood in twenty consecutive cases of influenza. A coloring solution of concentrated methyline blue and eosin in alcohol was employed. The blood-corpuscles are thus stained red, while the bacilli have a contrasting blue color. Usually they will be seen in clumps in the field—ten to fifty being aggregated in one spot. Occasionally, however, these clumps will appear as if spread apart and each individual bacillus will be distinctly seen separated from the others in the group. These clumps of bacilli floating in the blood are capable of producing embolism, by stopping up some peripheral capillary, and may thus explain some of the many complications characterized by the formation of abscess—suppuration being the natural consequence of septic embolism.

The presence of the influenza bacillus in the blood and sputum is of positive diagnostic value, and by microscopic examination we can state whether or not an individual case is one of influenza.

The final and convincing link of evidence in favor of this bacillus is the fact of our being able to communicate the disease to animals. Apes and rabbits present quite typical influenza after inoculation with the Pfeiffer-Kitasato bacillus. It seems reasonable to conclude, therefore, that this bacillus stands in direct causative relation to the disease. It is found in all cases of influenza; it is not found in other conditions; its inoculation communicates the disease to animals. Organisms have been seen by other investigators. Kleb's flagellaten is well known, but never was seen by anybody excepting himself. Weichselbaum found the pneumococcus so frequently in association with influenza and its various complications that he was inclined to attach a specific importance to its presence. All of the pus-formers have of course been seen. It seems rather unscientific, however, to search for the specific cause in abscess cavities.

The now authenticated bacillus doubtless has been seen by other investigators, but to isolate it, stain it, recognize its growth on agar, and decide that it was a bacillus and not a diplococcus, remained to reward the efforts of Pfeiffer, Kitasato, and Canon.

It was the heavy staining of the end pole and the overlooking of the clear, watery drops of diminutive size, representing the growth of the isolated colonies on agar, which misled the previous observers. During the past month there has been some interesting corroborative work done in Paris and Germany.

MM. Cornil et Chantemesse inoculated the Pfeiffer-Kitasato bacillus into the anterior chamber of the eye of rabbits. In a few days the rabbits showed evidence of a disease simulating influenza, and the bacilli were found in the blood.[1] Some of the latter fluid kept in sugar-bouillon for twenty-four hours was injected into the nostrils of a monkey. The next day the animal had coryza, high fever, diarrhœa, was prostrated and stupid for several days, but finally recovered. The bacilli are found in the nostrils, mouth, and bronchial secretion. Mice inoculated died in four days, and the lungs showed hyperæmia and ecchymosis; the kidneys were swollen and hyperæmic, and the bacilli were disseminated through the other visceral organs.

The medium employed by Professor Babes in the cultivation of these organisms is of the following composition: Agar agar, 1.5 per cent.; glycerine, two per cent.; peptone, two per cent.; chloride of sodium, five per cent., in neutralized bouillon.

Canon cultivates the bacillus from the blood by obtaining eight to twelve drops of this fluid in Petrie's glasses containing glycerine agar, and kept at 37° C. With the Pfeiffer bacillus, cultivated from the thick purulent secretion covering the mucous membrane of the respiratory tract in a case of influenza which terminated in a fatal bronchial pneumonia with meningitis, rabbits were inoculated and died in twenty-four hours; one succumbing to diffuse abscess formation. The presence of not only the streptococcus pyogenes, but also the short Pfeiffer bacillus, was established by microscopic examination and culture experiments.

Erosions of the Schneiderian mucous membrane in cases of influenza showed compact thick layers of a very small bacillus embedded in a covering of tenacious mucus. These bacilli penetrated into, and completely filled, the epithelial cells, and leucocytes were found in aggregated clumps in the superficial lymphatic channels.

The epithelial structure itself, with the serous and cellular exudate, forms in a necrotic degree, and there is found small round-cell infiltration of the deeper layers of the membrane. The visceral organs are permeated by the bacilli. The lymph-vessels are swollen and contain yellowish thrombodic masses. Professor Babes claims to have seen other varieties of organisms present. He describes exquisitely fine-pointed diplo-bacteria occurring in chains, and small immotile rod-forms containing a contrasting granular nucleus, around which is a light-colored zone; they color to varying degrees of intensity with the aniline dyes, and do not, with the exception of the chromatic nucleus, stain per Gram's method. The germs are pathogenic for rabbits and white mice. Inoculation on the unabraided nasal mucous membrane leads to a form of fatal septic pneumonia. Letzereich's reports are throughout substantiating, and he adds the additional evidence that the bacillus grows on potato at 30° to 37° C., luxuriantly for a short time, the colonies having the usual transparent or drop-like appearance, or may form in elevated streaks over the surface. But after about forty-eight hours the colonies become covered up by overgrowth of micrococci and streptococci present in the bronchial mucus which has been spread over the surface of potato; with methyline violet the bacilli colors red, the ends dark red, seemingly by reason of an aggregation of the protoplasm. The latter seems very suggestive of an endo-spore in this bacillus. A highly refractive granular nucleus had already been referred to in Babes's report, and such a compact, resisting, and refractive protoplasmic body in a bacillus, with sharply defined contour, formed by a coalescence of the minute granules, about corresponds with the definition of a spore; and I believe that further work in the longer staining of this bacillus will reveal this refractive nucleus to be a spore. Thus we see that the latest French and German investigations, and those of Professors Babes and Cornil, in particular, seem for the most part to corroborate the work so thoroughly done by Pfeiffer, Kitasato, and Canon. Certain differences, however, we must admit, as in the finding and cultivation of varied forms of these pathogenic organisms by Babes; but, notwithstanding, a valuable contribution has been made to science, and its perfection will place it among the great advances of the present eventful decade. Through five long centuries has the actual cause of influenza remained in obscurity, and now, for the first time in the history of medicine, are we able to classify this disease with tuberculosis, cholera, typhoid, diphtheria, anthrax, and certain other diseases as positively infectious, and whose etiological nature we understand, and can isolate and inoculate at our disposal.

The presence of influenza spores in the bacillus will explain much that we have till now been at a loss to account for in the occurrence and spread of influenza epidemics, and the occurrence of obscure isolated cases on ships at sea and in remote islands.

We all recognize the wonderful endurance of spores. They are the most resistant form of animal life known to us. Extremes of heat, cold, and chemical action have little influence upon them. The spores of anthrax will tolerate a temperature of over 140° Celsius, for three hours, before losing their virulent properties. They live indefinitely in the ground or elsewhere, and after years, when brought, accidentally perhaps, into circumstances favored by heat and temperature, they segmentate and produce disease. The anthrax spores on threads used by Koch in his investigations in 1882 are still preserved in

[1] Bulletin de l'Académie de Médecine.

the Hygienic Institute at Berlin, and produce anthrax to day as typical and as fatal as they did ten years ago.

It would seem, then, that the influenza bacillus must have a correspondingly resistant spore, when we consider that at times for fifty years the disease has been, so to speak, dormant, and in no part of the world in pandemic existence.

By reason of their characteristic form, size, and color, the influenza bacilli may be easily differentiated from other micro-organisms—streptococci and micrococci, so common in the sputum. Pfeiffer's observation of the capability of these bacilli penetrating through the peribronchial connective tissue and congregating on the inner surface of the pleura, as was seen in two cases at autopsy, supports the evidence of the highly virulent and infectious nature of these germs, inasmuch as other pathogenic bacteria have also the power of aggregating and localizing themselves, and through their proliferation and production of poisonous ptomaïnes can produce local ulceration, suppuration, and constitutional infection.

We have, in the past two weeks, accounts of 50 cases of control experiments by Letzereich, of Wiesbaden, in which examinations in other infectious diseases, viz., measles, scarlet fever, diphtheria, pneumonia, and in catarrhal affections of the respiratory passages, showed that in no instance, either in the blood or in the sputum, is this bacillus to be found. It is present only in the blood and bronchial secretions of influenza patients. Is not such evidence convincing? As previously intimated, this new bacillus does not imbibe particularly well the applied coloring matters. Only with difficulty and under particular circumstances do they take the aniline colors. In a weak alkaline, aqueous solution of methyline blue they will not stain at all. On the other hand, if they are placed in methyl violet, heated for two or three minutes, a striking peculiarity is presented. They do not appear of the color they have taken up, but much redder—a bright rosy color. Only in these bacilli with the protoplasmic thickening at one or both ends is there a red-violet shading, and in the latter instance the dark interior nucleus is plainly visible by means of a one twelfth oil emersion Zeiss and the Abby condenser.

The ovoid form is especially easy of recognition in the bacilli with protoplasmic thickening and darker-stained ends.

From the beginning of the disease the bacilli are present in vast numbers in the blood, and during its further course they gradually diminish, and, finally, after a certain form of "protective" treatment instituted by Letzereich, the coloring matter is no longer taken up by the bacilli; they then have a pale, insipid, barely recognizable appearance in the blood and sputum. Finally they disappear entirely. The entire duration of their presence in uncomplicated cases varies from five, eight, and ten to fourteen days. Where there has been lung inflammation resulting, for three weeks many of the bacilli can be seen. These very minute protoplasmic germs find an easy dissemination through the atmosphere, especially in the dry air of the sick-room and hospital wards.

The intimation of something like a protective treatment by Letzereich, of which he promises soon to give further account, may be awaited with much interest.

Why, then, shall we not concentrate our attention in bacteriological research, when it has done so much in the illumination of avenues in our science ever before obscure? This has been a decade characterized by the revelation of the cause of disease. The next ten years will be an immunity period, a period for the cure of those maladies whose cause we now understand and have under laboratory control. The first principle involved in all treatment is to know the cause. In absence of this understanding of cause, we are working in the dark and cannot scientifically influence effect. The underlying philosophical law, then, is perfecting itself. The natural consequences will be sure to follow. The good effect of the facts enunciated, and substantiated through bacteriological revelations, are becoming strikingly apparent in prophylaxis. How many thousands of lives have been saved in surgery and midwifery by the knowledge of the disastrous consequences of sepsis and the logical institution of asepsis. With this slight digression an attempt at concisely summarizing the clinical history of influenza will now be made. The latter subject, comprising the course, duration, and termination, is a rather extensive chapter.

After a period of incubation varying from twenty-four to seventy-two hours, the disease announces itself with the usual prodromes of general malaise, headache, languor, etc., and may run a short course and be attended with mild symptoms.

On the other hand, a most sudden and violent onset, with extreme prostration and alarming complications may be the character assumed. Symptoms referable to the nervous system, as a rule, are the more prominent. Influenza has been looked upon at times as a cerebro-spinal affection. It is the prostration which stands in the foreground. To extreme extent, and almost invariably, it is present. As early as the year 1800 Metzger directed attention to the weakness and prostration in influenza. Patients attempting to stand felt as though they had arisen from bed after a long protracted illness, were often attacked with vertigo, and fell into a syncope.

Gluge, the great influenza historian, dwelt especially upon the prostration. It was observed in the strong and robust, in youth and in the aged, affected not only the motor and sensory functions, but there was also depression of mind and of spirits. Pronounced melancholia, hypochondriasis, and hysterical manifestations, as will later be seen, are not uncommon. Loss of energy and will power, a cloudiness of the psycho-sensory sphere, stupor, sopor, and complete coma, are recorded by Bokel, and speak for a direct working of a chemical poison on the cortical brain-centres, probably the ptomaïne products of the bacillus which produces the disease.

Second in importance and frequency stands the influenza headache. It is characterized by its enormous intensity, being out of all proportion to the temperature range and other symptoms. Even in mild cases the headache is severe, and constitutes the chief symptom in the disease when catarrh and gastric disturbances are only moderate. This pain in the head is of a deep meningital character, and is often suggestive of this condition, especially as there is not infrequently an associated slowness of the pulse. Carmichael Smith, in 1782, made these classifications of cephalalgia in influenza. The first was an uneasy weight, soreness, and distention feeling as in common colds. Second, the violent sick-headache arising from affections of the stomach, and relieved by vomiting. Third, the sharp lancinating pain, as if the head were splitting. Fortunately, this more extreme suffering is of but short duration. Belonging to this same category migraine and hemicrania may be mentioned.

Also supra- and infra-orbital, trigeminal, sciatic, and intercostal neuralgia. Delirium is by no means rare, and was observed as long back as we can find accounts of the disease. It may be mild or transitory, or of a wild and recurrent character. Hyperæsthesia, anæsthesia, deafness, tinnitus aurium, photophobia, and diplopia may develop. In the circulatory system the pulse first attracts our attention. It is usually increased in frequency and may be quite rapid. Slowness of the pulse to 48 has been seen by Whitenmeyer. Very frequent and insidious is a cardiac weakness, which may become extreme and may lead to a sudden death. Indications of vaso motor paralysis is afforded by erythemas. One author speaks of an angio-spastic condition with extreme pallor. Hyperhydrosis accompanies many attacks and may continue after the attack has subsided, the patient perspiring profusely upon only slight bodily exertion. Sweating and prostration seem to go hand in hand. The temperature in influenza may be anywhere from 98° to 105° F. In

Leyden's clinic, during the past few months, many cases showed an irregular temperature curve. The catarrhal symptoms will now engage our attention. As early as 1883 Faulkner spoke of a nasal catarrh, catarrh guttural, and catarrh bronchial. A combination of rhinitis, pharyngitis and laryngitis, rachitis and bronchitis, may comprise the clinic picture. Paroxysmal suffocative attacks, without much local disturbance, may be experienced, and are seemingly of central origin. The mere mention of influenza implies cough and expectoration—an acute catarrhal process; but the symptoms on part of the respiratory tract are not always predominant, as previously shown. Epistaxis and bloody expectorations, without phthisis or pneumonia present, are mentioned by Leichtenstein.

Letzereich, of Wiesbaden, in the last issue of the *Zeitschrift für klinische Medicin*, states that at various intervals in influenza, trachitis, and bronchitis, there is an aqueo-sanguineous expectoration very similar to hypostatic sputum. This blood-tinged secretion contains myriads of the bacilli, especially during fever exacerbations. The germs, however, are never entirely absent at any time in the course of the disease. They are constant in every specimen of the blood examined, without exception. Symptoms on the part of the digestive apparatus are rather less prominent than those of the nervous and respiratory systems, although a cholera like enteritis and dysenteric dejections have many times been observed in past epidemics.

As a rule there is anorexia, and there may occur vomiting. A peculiar saccharine odor of the breath has been noted by English clinicians. Baumler says that in nearly all of his cases a slight icterus was present. Regarding enlargement of the spleen in cases which came to autopsy, there seems to be a difference of opinion. Ewald and Virchow have observed it. Biermer claimed for it a differential importance; others again have failed to find any spleen tumor.

The urine in influenza is naturally of febrile character, and is increased in quantity as a rule when no fever is present. Alison speaks of a great tendency toward formation of a sediment.

Weichselbaum has seen in the urine the diplococcus of pneumonia. Spectroscopic analysis reveals the presence of modified biliary coloring matters—chromogen and urobilin. The former was found regularly by Chapelle, with, also, hyper-acidity. Cambe held increase of phosphoric acid as an indication in therapy. Skatol and its combination with sulphuric acid has been recognized. Albuminuria is not infrequent. Aneuria occurs.

The liability to pneumonic complications in influenza we find substantiated as far back as it is possible to trace the history of epidemics. Before speaking of pneumonia, however, there are a number of other sequels to be noted, which belong to this category. A sub-chronic or chronic laryngitis is probably most common; angina follicularis is a frequent association. Circumscribed ulceration of the vocal cords has been described by three different writers. Œdema of the glottis, consecutive to a diffuse phlegmonous laryngitis, I have myself seen. A flaccid palate, from paralysis of the azygous muscle and paresis of the pharyngeal constrictors, while not so common as in diphtheria, does occur in influenza.

An influenza bronchitis, without any inflammation of the lungs proper, is not seldom the cause of death in the aged and debilitated. The liability to the development of pneumonia is very great, and it is this complication which is accountable for a large contingent of the mortality in influenza.

The German pathologists have classified it in a fibrinous lobular, fibrinous lobar, and a catarrhal form. The prognosis, especially in the aged, is very unfavorable. Of 174 cases of influenza reported by Mason, 77 had pneumonia; and the mortality with those in the fortieth to fiftieth year was forty-five per cent.

In children, on the other hand, pneumonia is rare as complicating influenza. It occurred but once in 218 cases, according to Comby, and he expressed the opinion that broncho-pneumonia after measles was favorably influenced by intercurrent influenza. In adolescence the relation sustained by influenza to pneumonia seems about the same as scarlet fever to desquamative nephritis in childhood. In what this tendency consists it is easy to understand. In the first place, there is the catarrhal affection of the whole upper respiratory apparatus which belongs to the influenza. Extension downward may easily occur. Secondly, the pneumococcus is present at nearly all times in the mouth, and all it requires for its development is exposure and reduction of the body temperature. Finally, we have a condition of toxic ptomaïnemia and groups of bacilli floating in the blood. The probability of their at times lodging in the pulmonary capillaries is suggested by the fact of Krouse, of Vienna, finding pulmonary abscess, and of Kundrat reporting gangrene. This of course may also be a stadium which has substituted itself for resolution in the gray hepatization of the ordinary pneumonia.

Induration of the lung has been seen by Kolisko. Pleuritis and empyema may occur with or independent of pneumonia. Levy has found the pneumococcus in pure culture in a sero-purulent exudate.

Tuberculosis as a sequel of influenza is well authenticated. I have myself seen many such cases, and I have further observed that the number of old tubercular patients applying for admission to the hospital during an influenza epidemic is markedly increased. That is to say, their condition is exaggerated by influenza, and they sometimes have hæmoptysis during the attack.

Embarrassment of the heart's action similar to that occurring in diphtheria has previously been referred to. It is often our chief danger signal and a demand for active stimulation. Rohring speaks of a remaining palpitation in 239 soldiers of which he had charge. Purulent pericarditis and endocarditis, leading to organic lesions, stenosis, and regurgitation are found in the literature. Krouse, of Vienna, tells of infectious phlebitis and localized passive discoloration of the skin, conditions speaking for bacterial embolism.

Complications referable to the nervous system comprise for the most part neuralgias, arthralgias, neuritis, paralyses, atrophies, and certain functional derangements of the cerebrum. Post-influenza neuralgia may not manifest itself for several days, or even weeks, but is severe and most obstinate to treatment. Either cranial or spinal nerves may be involved. The paralysis and atrophy may be due to neuritis, as was observed in case of the radial and median by Ruhemann.

The origin is central more often, probably, and has a toxic basis. Then Mendel's theory of intra-cranial capillary hemorrhage, as in post-diphtheritic paralysis, is to be considered.

Muscles of the ocular group, the palate, or of an extremity, as observed by Henoch, may be the seat of paralysis.

Professor Crego, of Niagara University, Buffalo, cites two cases of acute myelitis, and has seen many cases of insanity following influenza.

Leichtenstein detected punctate hemorrhages in the cord of a female patient who died of this disease. He has described eight cases of mono- and hemi-plegia, and speaks of an influenza apoplectica, the cases having impressed him as being due to cerebral embolism.

Isolated cases of aphasia, tetanic and epileptiform convulsions, and loss of consciousness, also hemianæsthesia, analgesia, tremor, a subsultus tendinum, and cases of inequalities of the pupils and nystagmus, are found in reviewing the records of past epidemics.

Epileptiform convulsions occurred where there was no organic brain lesion, microscopically, to be established—another point for a ptomaïne or toxine expending itself on the central nervous system. Organic lesions do occur, however. Hyperæmia of the meninges, actual meningitis, and brain abscess have been revealed by autopsy. In a case of suppuration in the antrum of Highmore, where

death occurred suddenly in coma, there was found an acute basilar meningitis.

Williamson saw a case of alopecia areata defining sharply the inpervation of the supra-orbital and occipital nerves.

Long-standing nervous affections, hysteria, and neurasthenia, are made worse by intercurrent influenza, as a rule.

Tabes dorsalis, and the funicular scleroses tend to an exaggeration of their symptoms. The relation existing between influenza and psychical disturbances seems positively to be that of cause and effect, although up to the year 1790 there is nowhere mention of the fact to be found. Jutrosinski believes in the possibility of the excessive use of antifebrin and antipyrin; not only by the laity but also by physicians, as being accountable for some of the hysteria, melancholia, hypochondriasis, and delirium in influenza. Dementia, paranoia, delirium tremens, and progressive paralyses are other varieties of nervous complications which may be assumed.

The causative relation of influenza to affections of the nervous system may be briefly formulated as follows: 1. As a rule, it is only when a predisposition exists that psychical disturbances develop. 2. Psychical disturbances may show themselves at any stage of the disease, but are more liable to occur in the depression of the convalescence. 3. Any form of psychical disturbance may be assumed, although melancholia and the hypochondriases are the more common. 4. Both sexes are equally disposed. 5. The larger contingent of cases occur in middle life. 6. The prognosis is favorable, the course and duration transitory. 7. The effect of influenza on already developed psychical affections has been discussed pro and con, and is not as yet fully determined.

Complications on part of the eye in influenza are not uncommon; they comprise for the most part conjunctivitis, episcleritis, keratitis, and iritis. Konigstein has observed glaucoma, paralysis of accommodation, and optic neuritis with atrophy. Choroidal embolism with consecutive panophthalmitis, and cases of embolism of the arteria centralis retinæ are noted.

As nearly every other organ and function in the body may be implicated in influenza, so also do we find the ear partaking of complications. In the ear clinic of Vienna a great number of affections are seen referred to this troublesome disease.

Otitis media acuta and purulenta is the most frequent, and is sometimes combined with myringitis hemorrhagica bullosæ. Gruber has operated six times upon the mastoid cells for necroses and evacuation of pus resulting from influenza. Hubbell has operated four times in the past winter. Atkins speaks of a transitory initial hyperæsthesia of the sense of hearing.

In the middle ear inflammations a most rapid exudation takes place, sufficing in twelve hours to rupture the membrane, and necessitating therefore a prompt paracentesis.

With evacuation of the pus and relief of the tension, the pain subsides in the majority of instances; although with Politzer we learn of an obstinate intermittent otalgia continuing after the middle-ear inflammation has subsided. In the pus of an influenza otitis media, Weichselbaum has found his diplococcus, but of course it is nothing new to find this germ in any part where suppuration is present.

The otitis media of influenza should be regarded as a dangerous complication; not seldom it has led to sinus phlebitis and thrombosis, pyæmia, purulent meningitis, encephalitis, and death.

With regard to the relations of influenza to the female genital apparatus and its functions, there have been a number of observations made during the past epidemic, and the consensus of opinion is that menstruation in association with influenza becomes a dysmenorrhœa. There is exquisite tenderness on palpation over the uterus, the pain almost assumes a peritonitic character, and the case terminates in menorrhagia.

There is much of a tendency to metrorrhagia in patients with chronic metritis. Abortions are not uncommon, and were referred in ancient times to acute endometritis. Women in normal labor at term have pains of extreme intensity, but they are ineffectual.

Of 102 post-parturient women in the Frauen Clinic in Munich, at the time of the last spring epidemic, 64 contracted influenza. In those cases where the temperature was high the lochia became profuse and offensive. Anton has observed that just at the onset of the menstrual epoch females were especially liable to influenza. Herpes labialis oris occurs in twelve to twenty-five per cent. of cases, and is looked upon as a sort of welcome sign, as in pneumonia, where it is associated with resolution. Erythemas are very common. Hamilton reported a scarlatiniform eruption. Comby saw a roseola, in 5 cases out of 218, simulating typhoid spots. Urticaria was mentioned as early as 1709. Acute psoriasis has occurred, but was perhaps a coincidence. A case in Leyden's clinic recently presented erysipelas complicating influenza, or rather the two were associated in a post-parturient. Leyden thought the influenza was favorably influenced by the erysipelas occurring, and suggested its possibility as a factor in immunity, although immunity seems rather dependent upon some of Buchner's isolated defensive proteids formed by the animal metabolism and capable of destroying some of the microbes, or rendering inert their chemical products of these—phylaxines or some of the sub-classes.

As respects urelogia, we have the possibility of cystitis and acute hemorrhagic nephritis, such as Strumpel reports, to consider. With regard to surgery, we would be led by Verneuil's report to fear pyæmia when a wound exists in influenza. Verneuil has shown that wounds manifest a suppurative tendency, and that there is danger of constitutional septic infection. Healing will not progress and it is injudicious to operate when this disease is prevalent. Purulent accumulations in cavities—the pleura, pericardium, antrum and frontal sinuses, deep cutaneous and glandular abscesses, acute orchitis, and otitis with mastoiditis, are some of the surgical sequelæ. Park evacuated a litre of pus from a subfacial abscess of the thigh in a case of acute influenza. Operations involving the nasal, buccal, and respiratory tracts are contra-indicated during influenza, owing to the great liability to infection.

In summary, we have seen that influenza comprises an exceedingly extensive chapter in medicine. The symptomatology of the disease alone is by no means limited; then its array of complications and sequelæ, and its capability of markedly exaggerating and unfavorably influencing all chronic standing affections, especially those of the nervous system, make it a disease second to few others in clinical importance.

The long list of consequences addressing themselves to every system and nearly every organ in the body speaks volumes for our having to do here with a general septic infection, and not with a miasm, as the older writers thought. In fact, no argument is necessary any longer. We have the one absolute and convincing factor, the presence of bacteria floating in the blood and being disseminated through this medium to the remotest recesses of the body. Not even left a possibility for scepticism, as in case of diphtheria and tetanus, where the bacilli are found only at the point of inoculation, and the symptomic consequences have to be taken for granted as due to the germ's chemical products.

Here, I say, we have the bacilli in the blood and floating around in aggregated masses. How easy it is then to understand that embolism may occur, and indeed septic embolism, which means, in the vast majority of instances, abscess. The influenza bacillus has been found in the sputum, in the blood and the tissues, it only remains now for some individual to establish its presence in the embolic apoplexies, in the inflammations and suppurative conditions which play such an important rôle in the complications of the disease. I have no doubt but that Weichselbaum saw the germ a number of times in his diligent searches of the

exudates. But the recognition of an unknown thing is always difficult. It further remains now for some individual to immortalize himself by producing an immunity for influenza through proper attention and re-inoculation of the virus, as Jenner has done for small pox, Pasteur for hydrophobia and chicken cholera, and partially for anthrax, and as Koch is trying to do for tuberculosis, and Emmerich for pneumonia. This then will constitute the therapy of which it now remains for us to say a few words.

Without the immunity, we have to give prophylaxis the next place in the rank. And with absolute prophylaxis we would not need any immunity, there would be no disease. As in case of tuberculosis, we could theoretically stamp it out. As we increase in perfection in prophylaxis, and instil into the laity the importance of its principles, to a corresponding extent will our need for remedies diminish. Future therapy will consist in prophylaxis chiefly. Without infection there are none of the consequences of infection. Formerly it was antisepsis. Now it is asepsis. They sustain to one another the ratio of prophylaxis to therapy. One admits the presence of infection and then tries to remedy it, the other precludes the possibility of infection, and is certainly the more rational. In the treatment of influenza, then, we place prophylaxis in the foreground; and in what does it consist? 1, Simply in the proper precautions regarding avoidance of exposure when an epidemic is current, and, 2, the disinfection of the bacteria laden sputum.

Cuspidores containing carbolic-acid water, such as are used in the Koch Institute, should be universally employed. How many tubercle, influenza, and other forms of bacilli could be kept out of the atmosphere we are inhaling if they were held down by maintaining the expectoration moist.

When influenza occurs, of course we must treat it, and we treat it in the way we do most other diseases, viz., symptomatically. Unfortunately we have no specific, and probably will not have till it comes through the channels of immune bacterial products. As for prophylactic remedies, quinine, the principal one in question, has been given a negative decision. But it is a good tonic, antiseptic, and antipyretic, and therefore a good all-around remedy. Exalgine, phenacetine, and antifebrin have been extensively used. Benzoate of soda is good.

Stimulants may receive urgent indication. The mouth and nostrils should be cleansed antiseptically as a further prophylactic. Inhalations of icthyol are valuable. Remaining to be mentioned are codeine, salol, naphthol, and iodide of potassium, all of which have their indications and their adherents. The complications are treated according to what they are and how they occur.

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Typhoid Fever in the Boston City Hospital.—Dr. A. L. Mason, as a result of the study of six hundred and seventy-six cases of typhoid fever admitted into the Boston City Hospital in 1890 and 1891, comes to the following conclusions (*Boston Medical and Surgical Journal*): 1. That in the Boston City Hospital the mortality in typhoid fever from patients admitted moribund and with grave complications, is four per cent. 2. That at least three per cent more die from intestinal perforation and hemorrhage. 3. That little diminution in the mortality from these causes can be expected under any mode of treatment. 4. That the mortality from renal, pulmonary, and circulatory disturbances, from diarrhœa and pyrexial exhaustion, is about 3 5 per cent. 5. That, excluding deaths from intestinal perforation and hemorrhage, the mortality among females is 3.4 per cent. greater than among males. 6. That a diminution of two per cent. in the general mortality might be expected from the systematic use of cold baths, the reduction being largely in females. 7. That favorable results followed the trial of intestinal antiseptics, but that relapses were not prevented thereby, and that a much wider experience is necessary to determine their value.

DEMENTIA EPILEPTICA—IMPROVEMENT OF THIS FORM OF MENTAL IMPAIRMENT FOLLOWING LINEAR CRANIOTOMY.

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Linear craniotomy, a suitable name proposed by Keen,[1] and decidedly better and more correct than craniectomy, a term given to it by Lannelongue,[2] is an operation by which pieces of the skull are resected to give to the brain more space for expansion. In trephining by the aid of the instrument, we saw out a circular piece of bone, a button. This operation to-day is done mostly for the purpose of enabling the operator to introduce other instruments underneath the skull to raise such parts of the fractured bone as have become depressed, and give rise by their presence to symptoms, either of cerebral irritation, or of compression. Then this operation is also performed in cases of cerebral hemorrhage, when circumstances having made possible the exact location of the clot, the coagulated blood producing compression of the brain, or giving rise to convulsive seizures, or to other morbid phenomena, is to be removed, and found beneath the opening. Finally, trephining proper has been practised for the cure of epilepsy, and it may interest the reader to know that there is evidence of trephining having been performed in prehistoric times, and of its probably being the oldest operation ever attempted on the human body.

The ancients gave to epilepsy the name of morbus sacer, and while the disease, therefore, as well as the person afflicted with this dreadful malady, were looked upon by them as sacred (as our Indians to-day treat with deference any demented individual), this sanctity became of a still higher order when trephining had been done on such a patient with the view of curing the "falling sickness."[3] Broca has adduced proof that trephining was practised for the same purpose in prehistoric times,[4] and there is no doubt that our forefathers of the stone age were acquainted with it.

Probably, as von Bergmann[5] sagely remarks, because of the uniform failure of the operation to cure, trephining for epilepsy was afterward abandoned. The period of the gradual withdrawal of the operation began with Desault, and ended with Dieffenbach,[6] after which, until the most recent times, trephining for epilepsy was undertaken only when some proof of an injury to the skull, as a cicatrix, etc., could be discovered in the cranium of the patient. As we see from Seydel's table,[7] even since the antiseptic era has domineered, but twenty-nine cases have been reported where trephining was resorted to for the sole purpose of curing epilepsy.

Since Horsley has drawn our attention to the fact that the removal of a button of bone is not sufficient, but that, especially in older cases, a part of the underlying cerebral cortex must also be destroyed to obtain success, the operation has received a fresh impetus again, and a new field has been opened to it.

Originally, while perhaps desiring simply to stop the fits of an epileptic, and finding instead the mental faculties to receive the benefit of this operation, the latter has also been advised as a means for improving mental disturbances. To-day we do not stop here, but to the trephining we add resection of a piece of the skull, as will soon be explained more in detail.

While one-half of all epileptics evince not only no deterioration of the intellect, but are remarkably bright and

[1] Keen, W. W.: Linear Craniotomy (miscalled Craniectomy) for Microcephalus Reprint from the American Journal of the Medical Sciences, June, 1891.

[2] Lannelongue: Report of twenty-five cases, Medical News, April 25, 1891

[3] Von Bergmann: Die chirurg. Behandl. v. Hirnkrankh. Berlin, 2 Aufl., 1889.

[4] Broca: Quoted by v. Bergmann, ibidem. [5] Loc. cit.

[6] Also quoted in v. Bergmann's work on the Surgical Treatment of Brain Diseases.

[7] Seydel: Antiseptik und Trepanation. München, 1886.

in vigorous health,[1] many of these unfortunates are characterized by a condition of the psychical sphere bordering on imbecility, and between simple impairment of memory and sluggishness of perception on the one hand, and complete idiocy with or without maniacal outbreaks on the other, every variety of mental disturbance may be met with as a complication of epilepsy, or as an apparent sequela of the same.

That the two—epileptic seizures and impairment of the intellect—are by no means synonyms, and that they do not stand to each other in the relation of cause and effect, not only the many patients prove who are subject to convulsions while possessing great perceptive powers and a quick intellect, but the results of operations also demonstrate, which, though often securing the mental improvement, yet secure no relief to the fits. We may say, however, generally speaking, that the same morbid state that caused the convulsions also is responsible for the mental shortcomings of the patient.

In children a disease is met with which has thus far been classed with epilepsy, in which the mental impairment and the convulsions begin at one and the same time, always suddenly, and both the disturbance of the intellect and the convulsive seizures run an independent course; one may be cured while the other continues unabated.

These children, during the first years of their lives, give every promise of becoming useful members of the human society. They often prove very bright and vivacious, and up to their third, fourth to seventh year, and, rarely, even up to the fourteenth, no warning premonitory sign indicates what is to happen later.

Generally, in the midst of apparent health, such a child is seized with convulsions which, though from the start of the character of those of haut mal, yet gradually increase in severity and frequency, and are specially distinguished from other attacks of epilepsia gravior by the intense force with which the victim of this malady is thrown down. Thus, for instance, while standing or walking, as if some great power had grasped him, such a patient is hurled to the ground with a tremendous force; or, while sitting on a chair near a table his head is thrown against the latter as if shot from a cannon. These attacks set in lightning-like, and in this variety of epilepsy they are further characterized by their generally beginning in some group of muscles, after which they attack the whole muscular system, and by the greater tonicity of the spasms, the rigid element decidedly preponderating. These patients never seem to have an aura, nor does the disease ever begin as petit mal, the seizures from the start having the character of those of epilepsia gravior.

The rapidity with which the attacks soon follow each other also specially distinguishes the malady in question; often what the French term *états de mal* develop, and the disease then resembles the convulsions of cerebral tumor, especially of the luëtic kind. While new-growths were not met with in my cases of epileptic dementia, the altered state of the cranium really causes the latter to act like a neoplasm upon the soft tissues underneath, as will be explained below.

In later life the victims of dementia epileptica, if they do not die earlier, or if no operation comes to their relief, are transferred to our institutions for the imbecile and the idiotic, and there end their lives.

Local palsies and hemiplegia may occasionally accompany this type of grand mal, or after the convulsions have been in existence for a while—from a few weeks to a year or more—paralysis may seize those parts in which the spasm begins, or in which the convulsive movements are the strongest and which remain rigid the longest. In no case does the palsy precede the other symptoms, thus pointing to a valuable sign in the differential diagnosis between uncomplicated infantile paralysis and epileptic dementia at its commencement; for after a certain period has elapsed, and when the mental impairment has clearly developed in the epileptic disease, an error of that kind is not apt to occur.

While, therefore, in some respects this epilepsy resembles somewhat the Jacksonian variety, its most important symptom is absent in the latter, viz., the impairment of the mental faculties. Although at the commencement but slight, the mental disturbance yet makes rapid progress, and is by no means dependent upon the convulsions; for, however slow the increase in severity and frequency of the fits may be, the intellect deteriorates rapidly, and if we succeed in improving the intellect and in completely removing its cause, and with it the imbecility, etc., this one-sided amelioration does not bring about the cessation of the convulsions, and has at the most but a slight influence on the severity of the latter. Also, if under a treatment calculated to lessen the reflex excitability of the convulsive centre, we obtain a cessation of the epileptic seizures, this usually transient improvement does not produce the slightest change in the mental sphere, the impairment there remaining exactly the same, or continuing its steady progress toward worse. And in not a few cases any diminution in the fits (either severity or frequency) leads to serious maniacal outbreaks and greater imbecility—an aggravation which ceases when the convulsive attacks are once more allowed full play.

There are some points of difference between the mental disturbance distinguishing the disease in question and that due to any other cause. To be sure, a great many conditions influence the mental affection met with in each case. Previous education and surroundings, natural tendencies, the rapidity or slowness with which the pathogenic element develops, its exact seat—all contribute their share in determining the result. But the peculiarities which specially characterize the form of mental impairment complicating the grand mal here referred to, are the following:

What first strikes us is the evident retarded mental development without any interference in the growth of the physical body. Usually imbecile and idiotic children are also stunted in their physical systems; they often are cripples or have some kind of malformation. Such never occurs here, unless as an accidental complication with no connection whatever with the malady spoken of; on the contrary, the physical health is excellent and all animal functions are well performed. Looking at such an unfortunate child, we see at once that the psychical sphere alone suffers.

The next distinguishing point is the peculiarity of the mental aberration. These patients sulk; the look of their eyes, the movements of the muscles concerned in expression are very vulgar; the speech of these children is heavy, and they are given to obscene language; while the whole apparatus ruled over by the speech-centre is evidently not disturbed. They talk correctly, but in a grumbling, sulking manner; they always are morose, suspicious, and vicious. Their countenance does not show the facies epileptica, but it makes the impression of the face of a shy, half-tamed animal constantly in fear of the lash. They understand plain questions asked of them and answer them rightly, especially when they concern the patients themselves, but the replies are thrown out in a slow, heavy, unwilling manner, which no word can characterize better than: sulking. They glance at you from the corner of their eyes, which otherwise usually stare at the floor, and I have never seen a case where the look had not some sign of hatred in it.

The mental impairment attacks the emotional sphere; the moral sense of these children is obtunded, and their whole character is described best by its most distinguishing quality: vicious.

One point shared by all is this: upon careful investigation we find that the mental development, having proceeded undisturbedly up to a certain time, had been suddenly arrested; remained at that stage, then travelled backward a little; while human passions, vices, and

[1] Nothnagel: Article on Epilepsy in Ziemssen's Cyclopædia, vol. xiv.

immoral ideas and practices from that moment on were uncurbed and became more and more licentious.

We have here the important differential diagnosis between microcephalus and epileptic dementia. The microcephal enters the world as such; it is born with him; in dementia epileptica the mental impairment begins at a certain age, simultaneously with the convulsions; at the same time the moral inhibitory centres are weakened from that time on. The older the child, when the epileptic malady begins, the less apparent are the mental shortcomings.

Finally, all these cases are especially prone to maniacal outbreaks, which increase in severity with the duration of the disease, as if the mental inhibition becomes weaker, the longer the disease lasts. There are many cases of epilepsy where the intelligence in the intervals between the seizures is not disturbed, but where, either before or after the attack, acute mania develops, which occasionally seems even to take the place of the convulsive seizures. These cases have no connection with epileptic dementia. When such patients are brought under the influence of the bromides and the fits cease, the maniacal outbreaks generally become only severer. We are now approaching epileptic insanity—a disease greatly differing from what I term epileptic dementia. The so-called epileptoid states, during which a patient, driven by an irresistible force within him which he cannot control, commits the gravest crimes, or in milder cases becomes a dipsomaniac, belong to the same category as insanity, but are met with only in adults; while from the very nature of epileptic dementia that disease can commence only in children, as we will soon explain.

The violence in the disease in question also comes on suddenly, but something provokes it. It is simply here an evidence of unbridled passion; a rage, into which the patient works himself on the slightest provocation. If the disease progresses to adult age, as once before mentioned, the patients must be cared for in asylums, as their violence becomes dangerous, while their imbecility makes them helpless; for the longer the duration of the complaint, the more the original normal mental development seems to decay.

We will now consider the cause of epileptic dementia. In every instance the disease is due to an abnormal formation of morbid bone-structure. In no case have I found the skull to consist of normal bone; in all the organic element is wanting, either completely or partly, and the earthy matter predominates. In most cases there are no outer and inner laminæ, nor any distinct diploic structure; the bone resembles mortar to which much chalky substance has been added, and of the smooth, hard, enamel-like surface, presented especially in the frontal and temporal regions by healthy skulls, not a trace can be detected in the cases referred to here. This abnormal composition of the bones of the skull is always associated with a similar condition of the teeth, while the rest of the skeleton gives no evidence of such a formation in the living being. But the morbid state of the different bones of the cranium evidently precedes everything else abnormal in the skull; *i.e.*, as soon as the change in the structure has occurred the next step begins: there is too much bone-formation, and this in its turn leads to what causes the disturbance in the brain, too early and too solid closure of the fontanels and of all the sutures. I do not believe that the last few steps in the development of the disease spoken of can ever set in, as long as the structure of the bone is normal. Thus far I have not yet met with a proof to the contrary, and although I have seen some early cases, wherever an opening was made in the skull the abnormal structure was apparent; and so uniform was this condition all over the cranium—as far as inspected—that considering the short duration of the brain disease, the pathological state of the bone-structure must have preceded all the rest.

It is the final outcome of this state, viz., the too early solid condition of the cranium, setting in at a time when the brain needs room for expansion most urgently, which is responsible for the malady called by me dementia epileptica, and the only remedy for which is offered us by linear craniotomy. When correctly performed, and in well-selected cases, this operation invariably leads to great improvement of the mental disturbance—in fact to a cure; while regarding the epileptic seizures, it only diminishes them—generally to a great extent—both in frequency and severity.

To obtain such a result we must be certain of a correct diagnosis. This, to recapitulate, necessitates the presence of the following conditions:

1. In a child with normal mental development and physically vigorous, up to a certain age, no premonitory symptom foretells the later disease.

2. Suddenly the child is seized with convulsions, which from the very start have the character of attacks of haut mal, but are distinguished by their greater violence, longer duration, greater frequency, and by the predomination of the tonic element.

3. Simultaneously with the convulsions there begins the mental impairment, which is characterized by the patient remaining intellectually forever in *statu quo*, and by the absence of all proper inhibition or of mental control over the passions; so that finally, like in an animal, all ideas of morality are extinguished, while the passions have full play, so that uncontrollable outbreaks of violent temper are frequent.

4. The history of the case and an inspection of the cranium betray the cause; abnormal and augmented bone-formation, which had led to too early and too solid bony union of the bones of the skull.

5. Abnormal shape of the cranium, whose dimensions are narrower, and which presents depressions and flattening where the shape should be vaulted.

6. Utter absence of other physical malformation, unless as accidental complications.

The diagnosis having been established, improvement rapid, and often miraculous, following linear craniotomy, may be guaranteed. Here the point is to perform the operation exactly at the seat of the trouble, which will generally be found within an area whose centre is the junction of the coronary and sagittal sutures, extending from there especially backward and downward, affecting mainly the upper and anterior part of the squamous portion of the temporal and the anterior third of the parietal bone, and the upper part of the frontal bone.

Besides inspection, special symptoms may here guide us. In one case, for instance, from the very commencement the vocabulatory previously at the disposal of the child had become diminished, and all through the whole duration of the disease the boy seemed to have trouble in finding correct expressions for what he wished to say, and the learning of new words was difficult. Here linear craniotomy was performed mainly over the region of Broca's convolution, and the result was astonishing, so great was the improvement following the operation.

In another case the convulsions always began with a contraction of the levator anguli oris et alæ nasi on the right side, and when the child—also a boy—talked, some paresis around the right corner of the mouth was plainly noticeable. Here bone was resected over the lower end of the fissure of Rolando and the cure was complete.

As in most cases bone must be removed on both sides of the skull, it is preferable to operate on one side at the time, as all the cases in which both sides were operated at the same time, and especially when the intervening bridge also was resected, ended in death; while the operation, when divided, seems to be free from danger.

The operation itself is simple. The boundaries of the piece of bone to be removed having been determined on the shaved and previously disinfected scalp, and landmarks having been bored with a drill through the scalp in the bone underneath, a sufficient portion of the scalp is then dissected off, including the periost. The two opposite ends of the piece marked are then removed by the

aid of the trephine, selecting, if we wish to resect a piece one inch wide, a one-inch trephine, etc. The buttons having been taken out, the intervening bone is sawed out, for, in the opinion of Sahli, the sudden death which has occasionally occurred from the operation, is due to the concussion brought about by the use of the chisel and hammer.

Any uneven edges or sharp corners may be rounded, or in case still more space is desired, the removal of more bone can be easily accomplished by the use of Horsley's bone-forceps, improved by Keen.

To be sure, strict asepsis is a *sine qua non*. I have performed linear craniotomy a number of times, and in every case where the dura had not to be opened obtained closure of the wound within from ten to twenty days, the size of the bone resected and that of the portion of the scalp to be dissected off, and the age of the patient, determining, cæteris paribus, the duration of convalescence. As a rule, the younger the patient the quicker heals the wound.

I believe, if we succeed in determining the exact locality of the irritating focus, so that we are certain of the part of the cortex to be removed, and destroy the latter, we may also cure the fits. This, however, though written down easily enough, is difficult to find out. In the one case above referred to it took nearly a year's observation, and needed the watching of the little patient in about twenty seizures, before I was sure that the convulsions always attacked first the *levator anguli oris, alæque nasi dexter*. After the removal of the bone the dura was laid bare near the lower part of the fissure of Rolando, and the exact centre determined with the faradic current. It was interesting to observe how, the moment the right spot had been touched, a spasm seized that part of the face and the right arm. The cortex for the depth of about one-sixteenth of an inch looked darker, and was cut away that far. The first few days a few twitches were noticed in the lower part of the right face, after that all convulsive movements ceased forever. Here the irritation of the centre of the levator muscle must have produced a reflex action through the brachial plexus of nerves.

In another similar case, the right hand always became clinched first. Here also the centre was removed by me, but probably not deep enough. The operation was followed by paralysis of the hand and wrist for two weeks, when the palsy left, but the boy, aged twelve, still has occasionally slight twitchings in the right hand extending up the right forearm, without, however, there being any unconsciousness or active spasms, and the twitching itself seems to become milder and to appear less frequently. The most peculiar point here is, that the boy since has become left-handed, the right arm having also lost in power, and I believe, not only from want of use.

This subject, however, does not belong to the domain of this article and I must refer the reader to the most recent literature on the subject besides the quotations already referred to.[1]

How the epileptic dementia develops, by what physiological and pathological and psychological process the impediment offered by the bone causes not only a standstill of further mental development, but also the cessation of all mental control—inhibition—over passions, and how these disturbances can disappear immediately after the removal of the obstacle, is a very interesting study, but a subject whose consideration must be left to another time.

LEGISLATION ON MEDICAL AND HEALTH MATTERS IN THE VARIOUS STATES IN 1891.

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(Continued from p. 516.)

Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Washington, West Virginia, Wisconsin, and Wyoming.—The State of Oregon passed two general statutes for the regulation of medicine and pharmacy.

The first provided that the State Board of Examiners should issue certificates to all persons who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing, of whatever school or system of medicine, and directed that the certificates should be of three kinds: the first for those holding diplomas or licenses, the second for candidates examined by the Board, and the third for those in practice and who had registered according to the terms of the law of 1889. Every person who has registered under this law was required to present to the State Board a certificate to that effect from the County Clerk, and another certificate would then be issued to him entitling him to practise medicine and surgery.

The law gave a hint to the Board not to be too hard on the applicant for a license, by providing that all examinations made of persons not graduates or licentiates were to be made by the Board, in whole or in part, in writing, and were to be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner. The fee for an examination was $10.

The Pharmacy law was modelled a good deal after those in force in other States, and established a State Board consisting of five persons. Every person doing business as a pharmacist must be registered, and in order to obtain a certificate he must be either a graduate or a licentiate, or a person in active practice at the time of the passage of the act. Those persons in active practice must furnish proof of such fact within three months.

Every registered pharmacist, apothecary, and owner of a pharmacy is held responsible for the quality of drugs or poisons, except those sold in the original packages of manufacture and those known as proprietary and patent medicines.

Any licensed practitioner of medicine is not subject to the law, but may furnish patients with any articles he may deem proper, and the law does not apply to wholesale dealers or manufacturers of patent medicines. The protecting shield of the law was thrown over the singing bird, by an act forbidding the killing or selling of any nightingale, skylark, black thrush, linnet, goldfinch, bullfinch, black starling, grossbeak, mocking bird, etc., these being "the species of German and American singing birds introduced and about to be introduced into this State from Germany and the Eastern States by an association styled, viz., "Association for the Introduction of Useful Singing Birds into Oregon," of which Mr. Frank Dekum, of Portland, is President.

A law was passed directing the names of all deaf, mute, or blind children between the ages of six and four-

[1] Horsley: British Medical Journal, 1887, vol. i., April. Macewen: Ibid., 1888, vol. ii. Jastrowitz: Deut. Med. Woch., 1888. Keen: American Journal of the Medical Sciences. Ceci: Emipar. progr. sinistr., Geneva, 1887. Barker: Boston Medical Journal, 1888, vol. i. Weir & Seguin: American Journal of the Medical Sciences, 1888. Volkmann: Beitr., Leipsic, 1886. Muhr: Arch. f. Psych., 1888. Wiessmann: Deutsch. Zeitsch. f. Chir., 1884. Langenbuch: Berl. klin. Woch., 1889. Hudson: Journal Arkansas State Medical Society, vol. i., 1890, 13. Stimson: New York Medical Journal, December 5, 1891, p. 637. Cuneo: Annals of Surgery, November, 1891, p. 406. Pedrazzi: Ibid., p. 407. Maglioni: Ibidem. Cromyn: MEDICAL RECORD, November 7, 1891. Bradford: Boston Medical and Surgical Journal, October 15, 1891. Crothers: Journal of Nervous and Mental Diseases, August, 1891. Agnew: Universal Magazine, October, 1891. Coley: New York Medical Journal, June 20, 1891. Soderbaum: Annals of Surgery, November, 1891. Park: New York Medical Journal, 1888, November 3, 10, and 17. Hammond: Medical News, 1887. Heath: Lancet, April, 1890. Birdsall: Lancet, May, 1887. Bennett: Medical News, 1887. And the following very important: Ernst v. Bergmann: Die Lehre v. d. Kopfverletz., 2 Aufl., 1890, and W. W. Keen: Removal of the hand centre, Medical News, April 12, 1890. Idem: ibidem, November 29, 1890. Idem: ibidem, September 12, 1890. Idem: Times and Register, December 20, 1890. Idem: American Journal of the Medical Sciences, December, 1891. Idem: ibidem, September, 1891. Idem et ibidem, October and November, 1888. Idem: Transactions of the New York Medical Association, vol. vii.

teen, to be reported by the clerks of school districts to the county school superintendents. Such children, if not being educated by their parents, were to be sent to the State institutions.

The State veterinarian was authorized to employ local inspectors to ascertain the existence of contagious diseases, and to establish quarantine. The salary of the office was fixed at $1,500 and expenses.

Pennsylvania.—Pennsylvania, like New York, has found it necessary to make greatly enlarged provision for the multitudes of the insane, and enacted a law directing the erection of an Asylum for the Chronic Insane.

A board of five commissioners was authorized to be appointed by the Governor to select a site and erect the buildings. The proviso was made that the site should be convenient to the other asylums for the insane, and must contain not less than five hundred acres of land. The cost of the land and buildings was not to exceed $500,000.

Another commission of five persons was authorized to select a site for a quarantine station on the Delaware River, remote from the centres of population. The commission was also directed to inquire into the feasibility of a joint quarantine for the protection of all parts of the Delaware River and Bay, to be controlled by the several States bordering thereon.

An elaborate law was enacted for the proper management and working of coal mines, after having been considered and approved by a committee of nine inspectors, mine owners and practical miners.

The anthracite coal fields were divided into eight inspection districts, with an inspector at the head of each who was to be chosen by a Board of five examiners, three of whom were to be practical coal miners and two reputable mining engineers.

The inspectors must see that all necessary precautions for safety are taken at the mines, and must visit the scene of every accident and attend all inquests on the bodies of persons killed at the mines.

Mine owners were directed to provide at the collieries an ambulance with two stretchers, for the purpose of conveying to his home or an hospital, any person injured. The ambulance must be provided with easy springs, bedding, spring mattresses, etc.

Two laws relating to cemeteries were passed, and might profitably be enacted in other States. One provided that property could be left for the care and maintenance of graves, monuments, etc., and that such bequests would not be void as violating the statute against perpetuities. The other allowed incorporated cemetery companies to accept by deed or will, devises or bequests in trust for the care of family burial lots, vaults, or graves, provided the companies obtained from the Court of Common Pleas of the County approval of the form of investment of the principal sums.

The Pittsburg Crematory is said to do a thriving business, and the Legislature assumed control over it by providing that, before any cremation was allowable, a permit should be obtained from the Board of Health. Before such a permit could be given the physician or coroner must file a written certificate giving the facts of death and the usual information.

The pharmacy law was amended so as to permit the legal representatives of a deceased registered pharmacist to carry on the business under the charge of a qualified and registered assistant.

The Board of Public Charities is accustomed to pass on the applications of public or semi-public institutions for appropriations from the public treasury, but a good many bills seem to have been introduced which gave sums in excess of those recommended by the Board, and in some cases where the Board had refused to make a recommendation at all. Many of these bills were vetoed by Governor Pattison.

Quite a large number of appropriations were made for small hospitals at different cities and towns in the State, on condition that land and money were contributed by private citizens. Such hospitals were authorized at Chester, Connellsville, New Castle, Pottstown, Carbondale, Pittston, etc.

South Carolina.—This State has taken a step backward in its medical practice legislation. The law of 1888 provided for the appointment of a Board of Examiners, consisting of five physicians, to whom should be presented all diplomas for examination; and the Board was authorized, at their discretion, either to issue a license thereon, or to examine the applicant further. The law was satisfactory to the profession and prevented the practice of medicine by quacks. In 1891, the Legislature, in which, it is said, were two men who had been rejected by the State Board, passed a law providing that all physicians, before engaging in the practice of medicine, should submit their diplomas to a Board consisting of three reputable physicians in each county, said Board to be appointed by the Governor upon the recommendation of the medical society of the county.

The law does not refer to the Medical Practice law of 1888, but is considered by the Secretary of the State Board as practically making that statute inoperative, and he states that the Board is not now exercising its functions. Another law was passed which will not be viewed with favor by physicians. By a statute passed in 1885, any physician or surgeon summoned, either by the State or the defendant to testify as an expert in cases before the Court of General Sessions, was to receive $10 in addition to the fees given other witnesses. An amendment passed at the last session reduced the compensation to $5.

Another law forbade the transportation within the State of any horse, mule, or ass suffering with the glanders. If any person violated this provision and did not have a clean bill of health from a veterinary surgeon, that the animal was sound when brought into the State, he was liable to punishment for a misdemeanor and must pay all damages incurred.

South Dakota.—In this State a comprehensive law was enacted, providing for a State Board of Health which, in addition to the ordinary duties of such a Board, was to supervise the admission to medical practice. The Board was to consist of three physicians in good standing, to be appointed by the Governor.

The Board was given power to make and enforce rules and regulations to prevent the spread of contagious, infectious, and malarious diseases among persons or domestic animals, to establish quarantine when necessary, and take any action required for the preservation of the public health. The general executive powers of the Board were to be exercised by a Superintendent of Public Health, who should receive compensation at the rate of $5 per day, and mileage of five cents. The Board was authorized to appoint two lawful physicians in each county, in connection with the State's Attorney, to be a County Board of Health. The County Boards were to be under the supervision of the State Board, and had power to enforce their regulations.

The provisions of the Medical Practice law are mainly as follows: No person is allowed to practise who is not a graduate of a lawful medical college, or who is an habitual drunkard, or a man of bad moral character.

If the applicant presents a proper diploma to the Superintendent of Public Health he was to receive a license, which was to be recorded in the office of the Register of Deeds of the county where he resides. Any person practising without complying with the law is guilty of a misdemeanor, and practising medicine within the meaning of the law means those who shall profess publicly to be physicians, and to prescribe for the sick, or who append to their names the letters M.D.; but this section does not apply to students who prescribe under the supervision of their preceptors, nor to commissioned surgeons of the United States Army and Navy, and does not prevent gratuitous services in cases of emergency.

It was declared to be a misdemeanor to fail to report to the County Health Superintendent the existence of contagious or infectious disease, either among persons or animals.

The law was further stated not to apply to those persons in the lawful practice of medicine, surgery, or obstetrics at the time of the passage of the act.

Tennessee.—In this State there were some amendments to the Medical Practice law which will be of interest. The right to practise by the law of 1889, was made dependent upon the registration in the office of the County Clerk of a certifice issued by the State Board of Examiners, and based either upon the diploma of a college in good standing or an examination by the Board.

Persons in actual practice were required to register their certificates within six months, but this period was extended by amendment to July 1, 1891.

The diploma referred to in the law must be issued by "some medical college in good standing, and said Board shall recognize any college that is recognized by the National Medical Association." This provision was changed so as to make the State Board of Examiners the judge of the "good standing" of the medical college, instead of the National Medical Association.

The 1889 law provided that any person who should practise medicine or surgery without the certificate of the Board of Examiners should be liable to a fine of $25 for the first offence, and $200 for each subsequent offence. The violation was made a misdemeanor in 1891, but the penalty was reduced to $10 for the first offence, and $25 for subsequent offences.

Itinerant physicians and vendors of drugs, ointments or other nostrums, or appliances for the treatment of diseases or injuries, were forbidden to carry on their business, under penalty of a fine of not less than $100 and not more than $400.

A general law regulating the practice of dentistry was passed in Tennessee. It was declared to be unlawful to practise dentistry or dental surgery unless the person held a diploma from some reputable dental college, school, or university department duly authorized in this State or some other State, where there was annually delivered, at the time of issuing the diploma, a full course of lectures and instruction in dentistry and dental surgery.

A Board of Examiners consisting of six practising dentists of acknowledged ability was authorized, and powers given them to issue certificates and decide upon the validity of diplomas. The Board was to keep a record of the names and residences of all persons entitled to practise, and those in active practice were directed to register within six months, upon which a certificate permitting the holder to practise should be issued. The compensation of members of the Board was fixed at $5 per day when actively employed, and expenses, all of which was to be paid out of the fees collected. The charge for a certificate without examination was $1, and with an examination, $5. Any person practising without complying with the law was guilty of a misdemeanor, and liable to a fine of not less than $25 and not more than $300.

The State decided to go into the pension business, and a law was passed for the benefit of Confederate soldiers, providing that a total disability, such as the loss of both arms, both legs, or both eyes should entitle a veteran to a pension of $25 per month. Partial disability, such as the loss of one leg and one arm, was to be compensated by the payment of $10 per month, and the loss of one leg or one arm by the payment of $8 33 per month.

It was declared to be a misdemeanor to give, sell, or furnish cigarettes or cigarette paper to any minor, under penalty of a fine of $50.

Any county with a population of 40,000 and upward was authorized to erect an asylum for the insane, the poor, the afflicted, and inebriates. The County Court was to appoint a building commission of six members, and the whole matter was to be under the control and direction of the court. A board of commissioners of five persons was to have the management of each institution when completed, and a superintendent was to be appointed who should be a "skilled physician of unblemished character, of enlightened and thorough professional education, of prompt business habits, and of humane and kind disposition. He shall be married, and with his family shall reside constantly on the premises."

Texas.—A law was passed in this State forbidding pugilistic encounters, or fights between a man and a bull or other animal, if bets were made or an admission fee charged. The offence was declared to be a felony, and the punishment a fine varying from $500 to $1,000, and imprisonment for a period from sixty days to one year.

A pugilistic encounter was defined to be any voluntary fight with or without gloves between two men or more, for money, prizes, or other things of value, and upon which money was wagered.

A paragraph was appended to the law as follows: "Whereas there is now no law prohibiting prize-fighting, and the offence is becoming of common practice, therefore the requirement of several days' reading be suspended."

An important health and quarantine law was passed, bearing mainly upon the yellow fever scourge. The Governor was authorized to issue a proclamation whenever in his judgment it was necessary, declaring quarantine on the coast or elsewhere, and for such period as the safety and security of the people required.

The Governor was to nominate and the Senate confirm the appointment of a Health Officer, who should be selected from the most skilful physicians of Texas, and who should from previous and active practice be familiar with yellow fever, and pledged to the improvement of both quarantine and sanitation.

The local health laws, when not in conflict with the regulations of the Health Officer, were declared to be in full force.

In case of quarantine the Health Officer must furnish shelter and subsistence to persons detained, and provide for their protection and comfort.

Vessels arriving from infected ports without a clean bill of health, were to be taken possession of by the Health Officer until all fines were paid or the vessels replevied by law.

It was declared to be the duty of every County Judge to select one physician of high character and recognized ability, who should be known as the County Physician.

It was the duty of the County Physician to maintain local quarantine, to enforce the rules of the State Health Officer, and to report to him all the facts concerning epidemics and their statistics. The salary of the State Health Officer was fixed at $10 per day and expenses, and that of the County Physician was to be fixed by the respective counties.

A law was passed raising the age of consent in cases of rape from ten years to twelve.

Washington.—In this State the principal laws of general interest were those relating to anatomical material for medical instruction, the regulation of pharmacy, and the establishment of a State Board of Health. The first declares that any physician, surgeon, or medical student may obtain human dead bodies for purposes of anatomical inquiry or instruction, and further directs all sheriffs, coroners, keepers of county poor-houses, public hospitals, county jails, and State prisons, to surrender the dead bodies of such persons as are required to be buried at public expense, to any physician or surgeon, to be by him used for the advancement of anatomical science, preference being given to the medical schools of Washington for their use in the instruction of medical students.

If such persons during their last sickness request to be buried, or if within forty-eight hours the body is claimed by some relative or friend, it must be buried.

The seemingly free permission for any physician to obtain a cadaver is qualified very decidedly by other pro-

visions. Every physician, before receiving a dead body, must give a certificate to the Board or official surrendering the same, from the Medical Society of the county where he resides, to the effect that he is a proper person to receive such a dead body. He must also give a bond with two sureties that the body will be used only for the promotion of anatomical science, and in such a way as not to shock public feeling. Any violation of the provisions of the law is punishable by a fine of $500.

The pharmacy law requires all pharmacists to be either graduates, licentiates, or already engaged in business. Four years' experience is required of a graduate, and three years of a licentiate.

The Board consists of five persons who shall be appointed by the Governor upon the recommendation of the State Pharmaceutical Association, which is to select fifteen names to be presented to the Governor.

Persons who are now engaged in business must become registered within sixty days.

All other persons must be examined by the Board. The proprietor of every drug store must keep a registry book for recording the sales of all poisons, and the name and address of the purchaser is to be given, and the amount asked for and the purpose stated by him.

All pharmacists are to be held liable for the quality of all drugs and chemicals except those in the original manufacturers' packages and patent medicines. The adulteration of any medicinal substance is punishable by a fine of $500. Any person compounding prescriptions after sixty days, who is not a registered pharmacist, is liable to a fine of $50. Physicians in regular practice, and manufacturers of patent medicines, are not subject to the law. The State Board of Health and Bureau of Vital Statistics was organized with five members, and general supervision given to it over health and life, with power to make rules and regulations and conduct such sanitary investigations as may be necessary. A State system of registration of births and deaths was authorized, under the charge of the Secretary of the Board.

The different county auditors were directed to keep a record of births and deaths in their counties, and it was declared to be the duty of all physicians, accoucheurs, and midwives to report such facts within thirty days.

When no physician was in attendance the cases were to be reported by the parents or householder.

A registry of marriages was also to be kept. It was the duty of the Board to examine into and report upon fatal and contagious diseases among domestic animals.

The salary of the Secretary was placed at $1,200 and $5,000 appropriated for all expenses.

West Virginia.—The legislation in this State was not important. The number of persons in a coroner's jury was reduced from twelve to six, and the coroner was ordered not to hold inquests unless he thought there was good cause to believe the death to occur through some unlawful act, except when a request was made by the prosecuting attorney.

The Governor was authorized to accept the regulations of the Bureau of Animal Industry, established by Congress for the prevention and suppression of pleuro-pneumonia and other contagious diseases among cattle, and the stoppage of any export of diseased cattle.

All expenses of quarantine and condemnation of animals was, however, to be paid by the United States.

A law was passed giving the maintenance and care of lunatics to the various County Jailors, and allowing them $1 a day, and in extreme cases $2, for each patient. This allowance was not to be paid, however, unless the jailor applied at least once in twenty days to the Board of Directors of the hospitals, for the admission of the patient to the hospital, and the application is refused for lack of room. Owing to the crowded condition of the hospital, an appropriation of $46,000 was made for buildings for a second hospital.

County Clerks were ordered to keep separate books for the registry of physicians and accoucheurs, and for marriages, births, and deaths, and to report annually concerning the same. A failure to obey made the clerk liable to a fine of $100.

It was declared unlawful to sell or give to any minor under sixteen any cigarettes or opium in any form. A violation of the law was made a misdemeanor and punishable by a fine of $100 and imprisonment for six months. An exception was made for prescriptions containing opium when given by a regular practising physician.

The manufacture or sale of oleomargarine was forbidden, unless the article was colored pink.

Wisconsin.—A drastic law was passed in this State regulating the sale of oleomargarine. Every article or mixture of the kind must be plainly marked in capital letters, and every package sold must have a label attached stating what it is.

No person is allowed to sell oleomargarine or butterine who does not keep posted in a conspicuous place a card saying "Oleomargarine sold here." Every boarding-house, restaurant, lunch-counter, or hotel which uses oleomargarine must have a card plainly stating the fact.

All charitable and penal institutions were forbidden to use the imitation butter under a penalty imposed upon the superintendent of from $25 to $50 for the first offence, and $50 to $100 for subsequent offences, together with imprisonment not exceeding ninety days, at the discretion of the judge.

The statute forbidding the killing of song birds or the destruction of their eggs and nests, was amended by striking out the "sparrow," though no bounty was given for the bodies as in Illinois.

Power was given to county and municipal judges to send deaf, mute, or blind children to some public or private institution for education, if the parents or guardians neglected to properly care for them.

Children under fourteen were forbidden to be employed in factories, places of amusement, except in the service of their parents and out of school hours.

The sale or gift of cigarettes or tobacco to any minor was forbidden when such sale or gift had been prohibited by the parent or guardian.

The offence was made a misdemeanor and punishable by a fine of $25.

Wyoming.—Considerable of the legislation of this State was significant of its recent admission in the Union.

A Board of Trustees was provided for the State Blind, Deaf and Dumb Institute, and it was directed to be opened when at least twelve pupils were ready to enter. If the number of pupils at any time was less than eight, the Institute should be closed. An appropriation of $750 was made for expenses.

A comprehensive statute for the protection of children was passed. Their ill-treatment, over-work, and cruel punishment was forbidden, also the employment of minors under eighteen as acrobats, gymnasts, rope-walkers, or in any indecent and illegal occupation.

Children shall not be given or hired out to sing or beg, and no one having the care or custody of children shall allow them to dance, or act in any concert saloon or place where liquor is sold.

No child under fourteen shall be allowed to work in any colliery, iron mine, or underground workings.

Any duly organized or incorporated humane society may have its officers commissioned as police, but without compensation.

A State Board of Charities and Reformatories was organized, and authority given to it to examine and supervise the management of all charitable, reformatory, and penal institutions. An inspection must be made at least once a year.

The appointment of all officers of penal and reformatory institutions was vested in the Board.

County Sheriffs were directed to report twice a year the condition of the jails, and the number, habits, occupation, cost of medical treatment, etc., of the convicts.

No convict was to be employed so as to compete with

honest labor. An annual report, with any recommendations thought proper, was directed to be made to the Governor.

The determination of the question of insanity and the capacity to manage property was confided to a jury of six persons. If found insane a guardian was to be appointed. If subsequently it was claimed that a person had become sane, this question was to be submitted to a jury.

The same proceedings were authorized in cases of habitual drunkenness, where the person was incapable of managing property.

The salary of the State Veterinarian was reduced from $2,500 to $1,800; and the age of consent in cases of rape was raised from fourteen to eighteen, and the punishment placed at a period from one year to life.

The question of establishing a Home for Friendless Women and Children was directed to be submitted to the people at the next general election.

(Concluded.)

Progress of Medical Science.

Adenoid Vegetations.—Adenoid vegetations in children are removed by the following simple method, given by Dr. Dessar (*Archives of Pediatrics*, May, 1892): The experience of the author has taught him that adenoids in children are best removed in a series of operations without an anæsthetic, rather than in a single sitting under anæsthesia. He seldom has to resort to any instrument outside of three sizes of Lowenberg's forceps. The child is placed either in a chair or the mother's lap, and the arms held firmly, the forceps are then quickly introduced into the vault of the pharynx, pushed up as high as possible, the blades widely separated, then closed, and the sheaf of the instrument slowly forced downward. If too much resistance is encountered too much tissue has been grasped. Much harm may be caused by improper or poorly constructed instruments. After one or two sittings children usually become more courageous and the mouth-gag is not necessary. Sittings are continued until digital examination reveals a smooth surface on the vault of the pharynx. Adenoid tissue on the lateral walls and in Rosenmueller's fossæ are to be scraped off with a lateral cutting curette. The author has devised two small instruments, made by Reynders, one edge being blunt, and made to cut one from right to left, and the other from left to right. The advantages gained in operating on children in the foregoing manner are: 1. The absence of disagreeable symptoms following the use of an anæsthetic. 2. The absence of profuse hemorrhage. 3. The absence of pain after the operation, and of bronchitis brought on by blood entering the bronchial tubes, as so often happens after anæsthesia. 4. Short time consumed in operating. 5. The consent of parents objecting to an anæsthetic.

Transplantation of Large Skin-flaps.—Wolfe's method of skin-grafting is quite different from the epidermic methods of Reverdin and Thiersch. Dr. Ceci, of Genoa, reported seven cases on which he had used this method, at the International Congress in Berlin. He now reports three more cases, with illustrations, in *The British Medical Journal*, April 16, 1892. Flaps taken from distant parts undergo contraction in the course of years, but this is also true of the Tagliacozzi, and the migration (*Wanderlappen*) method of Hacker and Obalmiski. The Wolfe method is thought admirably adapted to plastic operations on the forehead, cheeks, surface of cranium and nose, where the bones are intact. The following modifications are suggested: 1. In gradually reducing the number of sutures I have at last given them up altogether, finding that the flap adheres like sticking-plaster. 2. Instead of transplanting the skin at once after preparing the surface, I find it better to allow two or three days to intervene. This is especially imperative when arteries have been tied, because these bits of sloughing tissue may have a septic effect upon the transplanted flap. 3. To obviate the objection of cutting an irregular flap to the required shape and measure, and thus leaving a granulating sore on the arm, I remove it in a straight line, whereby I obtain a lineal cicatrix.

Laryngitis from Iodide of Mercury.—Dr. Kanasugi (*Berlin. klin. Wochens.*, No. 36, 1891) reports an instance of sudden acute laryngitis following the use of calomel by insufflation while iodide of potash was being given by the mouth. The night following the first application of the calomel, sudden hoarseness and suffocation occurred and there was great difficulty in phonation. Œdema was found involving the epiglottis and arytenoids, while parts or the mucous membrane within the larynx looked as though nitrate of silver had been applied. The drugs were discontinued and the œdema disappeared.

Pental.—Dr. Holländer (*Therap Monat.*, January, 1892), has recently succeeded in producing profound narcosis with pental inhalations. The effect begins within forty to forty-five seconds, and consciousness is lost in from one to three minutes. Corneal reflex persists for a long time. On waking the patient feels well. The new anæsthetic is recommended for short operations.

Sulphonal, its Dangers and Disadvantages.—Among the disadvantages in the use of sulphonal Dr. Johnstone finds the slowness of its action, and the tendency of the action to be prolonged into the succeeding day. It also is found to be followed by drowsiness, confusion, giddiness, fatigue, and serious cerebral and motor symptoms when repeated doses are given.

Dr. Fürst (*International klin. Rundsch.*, Nos. 48, 49, 1891) has noted such numerous and disagreeable symptoms as twitching of the muscles, nausea, vomiting, vertigo, fainting attacks, tinnitus, chilly sensations, paralytic weakness, ataxia, diminished pupillary action, diarrhœa (rarely), obstipation, ischuria or complete anuria, lowered temperature, cardiac weakness, impairment of respiration, cutaneous eruptions, hallucinations, and amaurosis. In spite of all this it is well known that the moderate use of sulphonal is entirely harmless. It is only when kidney disease is present or threatens that the drug should be entirely withheld.

Glandular Asthma.—Dr. Joal (*Archiv. Gén. de Méd.*, April, 1891) shows that in infants asthma is at times symptomatic of tracheo-bronchial adenopathy. The bronchial glands are often the site of congestive and inflammatory conditions following bronchitis, measles, pertussis, etc. These fluxions irritate the terminal filaments of the pneumogastric, the irritation is transmitted to the bulb and determines a spasm of the inspiratory muscles and dilatation of the pulmonary vaso-motors. This asthma is thus of reflex order, and is produced by a mechanism analogous to that which presides over the development of nasal, tonsillar, and gastric asthmas. This affection is observed especially after measles, whooping-cough, and infectious infantile diseases in those predisposed to bulbar over-activity, and especially in young boys whose parents are neuro-arthritic. The determining causes of the attacks are those which provoke fluxion toward the intra-thoracic glands. Emotions, weeping, effort, variation of temperature, chilling, etc., interfering with respiration, may cause similar congestion of the glands. Glandular asthma is to be suspected if the paroxysms return, especially by day, after efforts and movements; if they appear and disappear coincidently with swelling of the glands; if they coincide or alternate with the pertussis, vomitings, palpitation, aphonia, persistent hoarseness. In treatment, cutaneous revulsion has a great importance. It should be prolonged, but not painful. Other treatment, as for infantile asthma in general, special treatment being at the same time directed against the adenopathy.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE AMERICAN MEDICAL PROFESSION AND THE CABINET.

IF the great American medical profession goes and makes a fool of itself, the fact, however painful, ought to be made known for purposes of self-mortification, self-instruction, and future guidance. We are not prepared to admit that so inopportune and unexpected a thing has happened, but there are facts which it must be confessed suggest it

Last fall Senator Sherman, of Ohio, introduced a bill to establish a Medical Secretary of Public Health. This bill was the creation of a committee of thirty, appointed by the American Medical Association to promote the object contained therein. What this Secretary would or ought to do is modestly stated in the following paragraph, which forms part of a highly desultory preamble.

"A Secretary of Public Health would represent the medical consciousness of the nation, and become one to whom we could look for the exploitation of measures that will direct continuous scientific and collective investigation in regard to endemic, contagious, and other diseases; the enlightenment of the people in sanitary ways of living; the dissemination of information respecting the most favorable places of residence for those afflicted with such chronic diseases as asthma, rheumatism, neuralgia, and consumption; the examination of food and drinks; medicinal springs; the collection and tabulation of vital statistics at large and in various localities, such as the congested areas of our great cities and among various races. He would be able to co-operate with State Boards of Health, the Signal Service, the medical departments of the army, navy, and marine service, unify and utilize their work, and thus make the Department of Public Health the repository of the most important facts that concern the comfort of the people, and his duties will grow broader and stronger in adaptability to public needs. Moreover, the creation of this department will be a declaration by Congress that the promotion of the health of the people is a supreme law, and that in the future progress of civilization medicine shall have its true rank with the other offices of the State."

So far this is good enough, and if the energetic committee had confined itself to the eloquent presentment above, it would have caused no great comment.

But the preamblers were not content. Being appointed to memorialize it was bound to give Congress its money's-worth. It proceeds to dilate therefore upon the greatness of the American Medical Association, "constituted, as it is, of men of distinction in their profession in every part of the Union." It complains that in the United States the medical profession has been left, for the most part, to take care of itself, "without subvention of the State." But despite this, it adds that "there is no other profession that excels ours in positive efficiency to sustain public order, comfort, and virtue. We possess vast capacity for the direction of society and promotion of human happiness."

The following interesting and no doubt truthful disquisition on the general theory of medicine is an illustration of an earnest but misapplied enthusiasm:

"The organism which is called medicine, like every other product of man's constructive genius, is striving to attain perfection, and to accomplish this it must be sustained in all its scientific undertakings by the co-operation of national and State legislation and the hearty co-operation of the people for whose health and happiness all its efforts are put forth to prevent disease. It is certainly a remarkable spectacle to observe its constant effort to save the people from disease, when success will limit to the smallest dimension the office of physician. But this grows out of the nature of their studies, the tendency of which gives the highest motive for unselfish service to suffering humanity. The physician is bound to render this service to rich and poor alike. The amount of gratuitous service, especially in great cities, constitutes one-third of their practice. The most distinguished and experienced of the profession form the staffs of all of our hospitals, without any remuneration."

It will, we think, appear to all of our readers that however rich in truth these paragraphs are, they would not appeal to the average Congressman as reasons for creating a Medical Secretary of Health.

We quite believe in the utility of such an office, and in the fact that eventually it will be created. But it cannot be gotten by means of pathetic recitals of medical wrongs or of medical philanthropy. If we have a Medical Secretary it must be because such a person will be distinctly a benefit to the people and the State. A memorial based on this ground, containing facts logically arranged and cogently presented, would win votes, and each year it would secure more. Let the committee of thirty start again, tear up its rhetoric, leave out the dispensary question, and appeal to Congress on a more solid basis.

CORYZA AND THE AXIS OF ASTIGMATISM.

OUR esteemed contemporaries the *Medical News* and the *Post-Graduate* are adding much to the gayety of nations and the joy of medical ratiocination. A contributor to the latter journal intimates that Philadelphia ophthalmology is lagging behind, and does not understand or properly apportion the use of atropine and ophthalmometers. To which the Philadelphia editor utters paragraphs of scorn, and affirms that life is too short to be spent in correcting the errors and vagaries of New York's *fin de siècle* oculists.

Comes now the *Post Graduate* and girds itself against its disdainful opponent. "A writer in the *Medical News*," it says, "reports a case of severe common cold

due to reflexes from the eye. A man of forty-six years of age, a successful business man, came to the author on account of asthenopia. After paralyzing his accommodation, it was found that he had three quarters of a diopter of myopia in one eye, and one and a half in the other."

This statement brings the *Post-Graduate* critic into a condition of surprise, stasis, and awe. A man of forty-eight years, we re assured, does not need his accommodation paralyzed—nature has already done that for him—in order that his refraction may be determined. "This plan has not even the merit of being an ancient practice. We have never heard that oculists in general paralyzed the accommodation of patients who are more than forty two. With glasses alone, the refraction of such patients can be accurately determined in a short time, and with the ophthalmometer in five minutes."

Nevertheless the glasses cured the coryza of eighteen years' duration, including a pharyngeal and laryngeal congestion and a change of voice. If the axis of the astigmatism became improperly rotated, the coryza reappeared.

It looks as though astigmatism was going to become more epidemic in Philadelphia than heteraphoria ever was in New York.

We shall watch the progress of the ophthalmological civilities between the two towns with much interest. Meanwhile the reckless general practitioner will probably go on treating coryza in the old and ignorant way with aconite, Dover's powders, quinine, and expectation.

A PARTIAL SOLUTION OF THE DISPENSARY PROBLEM.

If Theophraste Renaudot had known the amount of talk that would be occasioned by dispensary abuses he would have hesitated at least before establishing his first institution for the free treatment of the ambulant sick. However, there is some satisfaction in knowing that all the talk has not been vain. We have tried to do our part, and it is gratifying to know that others interested in this important question have succeeded in a measure in practically correcting some of the abuses to which we have so often referred in these columns.

In this issue will be found the announcement of a competitive examination to fill a vacancy in the medical staff of the Good Samaritan Dispensary (formerly Eastern) at a salary of $600 per annum. This has led us to make some inquiries concerning the institution's management and resources, and we have learned that over $10,000 are paid out each year in salaries to the doctors who do the work, and that this amount, and a small surplus besides which goes toward paying for the drugs, comes from the patients treated, so that it is practically a co-operative institution. Each patient, if able, pays a fee of ten cents, and, according to the report, almost one hundred thousand prescriptions were paid for last year, and nearly seven thousand were dispensed free. Surgical operations, dentistry, and vaccinations furnish an additional source of income. The only strictly charitable feature of the institution thus seems to be the furnishing of a building in which the work can be carried on, and the dispensing of medicines at about one-third their cost.

There is unquestionably a large number of people in this city who can readily pay so small a fee as ten cents, while it would be almost impossible for them to pay a physician a dollar fee in his office, especially if it were necessary, as it usually is, to make frequent visits. Now, if this institution or any other can and will treat this class to the exclusion of the others who are able to pay for treatment outside, the problem is solved.

The report shows that nearly ninety-one thousand patients were treated last year. It does not show how many were refused treatment, but we are informed that the rules permit any physician to refuse to treat any patient whom he deems unworthy, and that a certain proportion are thus excluded. Investigation of the condition of suspected frauds has been found unsatisfactory and expensive, but the management expresses itself as ready and willing to institute as thorough investigation in this direction as possible if a fund can be established for this purpose. This would seem to be a much needed reform, and in the absence of a detective bureau attached to each dispensary we would offer the suggestion of refusing treatment to all suspected applicants, and let the burden of proof rest with them. On application to the Association for Improving the Condition of the Poor, the Charity Organization Society, or similar body, a certificate could be given the applicant showing that his condition had been investigated, and that he was entitled to free or low-price co-operative treatment.

Until all the dispensaries in the city join in some such combined effort abuses will continue, and it will surely be to the disadvantage of those institutions which refuse to make any attempt to correct them. The impression is gaining ground that there has been about talk enough, and that the time is fast approaching when action will be required.

The Medical Record is glad to lend its support to any institution making a true effort to do the proper thing by the physician while not pauperizing the public, and it will continue to oppose all those whose methods injure physician and public alike.

THE CORRESPONDENCE OF THE INSANE.

Among other wonderful things done by the late Legislature of this State was the enactment of a law prohibiting "the opening or reading of certain letters written or received by the inmates of insane hospitals and asylums by those in charge thereof, and providing for the delivery of the same."

This bill was lobbied through by a lady who had at one time been unfortunate enough to suffer from an attack of insanity, and who represents a curious organization called the Anti-kidnapping Society. The bill provided that every lunatic should have the opportunity once in three months of choosing a correspondent with whom he or she could communicate weekly. The letters sent and received must not be opened or examined.

The bill was unnecessary, harmful, and absurd; but it nevertheless passed both houses. A very forcible brief was drawn up by Dr. A. E. Macdonald and presented to the Governor. Protests from various other sources were received and the bill was fortunately vetoed. Dr. Macdonald says in his "brief:"

"There are in the city asylums at present patients who claim to be the husbands, or accepted lovers, of many ladies of prominence, several of them married, whose names can be given to his Excellency, privately, if he desires it.

"The patients further claim that they are separated from these ladies by their husbands or other relatives.

"They will undoubtedly select these ladies as their 'chosen correspondent,' and overwhelm them with offensive protestations; or they will select the husbands or relatives, and threaten them with violence of all kinds.

"Should these ladies and gentlemen be exposed to such attacks, and deprived by law of the right to protect themselves?"

The law already existing provides that letters directed to public officials shall not be opened; and furthermore all correspondence not approved or detained by the superintendent must be forwarded to the State Commission, by whom an examination is made. If the letters are proper they are then forwarded. Present regulations thus sufficiently respect the rights of the insane and protect the sane from insult and annoyance. We trust that no further attempts will be made to disturb a system which proves to be safe and just.

News of the Week.

A Novel Cure for Diarrhœa.—Dr. Samuel P. Hand, of Cootopa, Ala., reports the case of a negro woman three months pregnant, suffering from typhoid fever, to whom was given internally, by mistake of an attendant, two teaspoonfuls of tincture of iodine in twenty-four hours, without toxic effect. Paregoric in that quantity had been prescribed for a diarrhœa, but the tincture of iodine apparently cured the diarrhœa; at least, it did not kill the patient nor the prospective child.

The Deeds of Ohio Statesmen.—There are spectacles for gods and men, and also at times for their gibbering simian ancestors. Something of the monkey trick spirit seems to hang over the Ohio State Legislature. This eminent body of statesmen, as we learn from the *Journal of the American Medical Association*, has, "with considerable merriment, rejected a bill to regulate the practice of medicine in the State, principally because it would interfere with itinerant doctors, and diminish the advertising receipts of some papers." It did not adjourn, however, without affecting any medical legislation. It appropriated $5,000 to test the efficacy of the Keeley cure, and made itself a sort of committee of the whole to investigate. Each member is to have the privilege of sending one patient!

The Prince and the Doctor.—The well-known English physician, Dr. Sinclair Coghill, recently sued Prince Clovis Bonaparte for compensation for services in having attended Madame Rosalie Bonaparte when she was sick. In answer to Dr. Coghill's suit, Prince Clovis asserted that the services performed by the doctor were not of a character for which a husband ought to pay, and that the relations between Dr. Coghill and Madame Bonaparte had been not medical, but immoral. Dr. Coghill's answer to this was that Prince Bonaparte was only a blackmailer, and was trying not only to evade his honest debt, but also to extort money by making false charges, and that it was with the view of meeting this issue squarely that he, Dr. Coghill, had brought this suit. The jury believed the doctor, and disbelieved the Prince and Madame Bonaparte. They gave a verdict to Dr. Coghill for the full amount of his claim.

Antifebrin and the Tuberose Smell.—We hear of an observant gentleman of David City who takes a dose of antifebrin and then goes out into the open air, whereupon he smells a beautiful odor somewhat resembling the tuberose. This curious psychological experience has been repeated so often that the relation of the tuberose to the hydrocarbon product is established. The question only remains, is this a universal law, or only limited to David City? There are times on summer nights when the citizens of New York would gladly antifebrinize themselves if it would shut out the evidences of industrial activity on a neighboring island.

A New Medical College for Chicago.—The present medical colleges of Chicago are not sufficient for its greatness, and a new institution, to be conducted on new lines and in a thoroughly fresh and, we take it, "brainy" way, is proposed. The name of the new institution is the "Clinical College of Medicine and Specialty Hospital," and it already has a lot 131 × 182. Instruction is to be given by demonstration and recitation. No didactic lectures will be given. We should judge that the Clinical College has got the right ideas of teaching, but it will find that the new methods are very expensive.

Improvements in the Army Medical Service.—The army is to have one hundred new ambulances, and there are to be additions and improvements in the medical equipment of the corps which will place that important branch of the service upon a more efficient footing than the medical corps of foreign armies. The hundred ambulances to be built will replace the old ones as far as possible. The new ambulance is three hundred pounds lighter than the present vehicle. It is a four-wheeled affair, strong enough in construction to withstand the wear and tear of hard road travel, and equipped with springs to prevent undue jolting of the occupant. The new medical and surgical boxes, quite ingenious repositories of every conceivable description of physician's material, find places under the seat of the driver. Two oblong boxes, one on each side of the centre of the wagon, slide in and out, affording easy means of carrying water, a gallon of which is contained in each receptacle or drawer. The floor of the wagon has grooves, into which the feet of the litters are placed for sliding them into steady positions in the ambulance, which accommodates two litters, side by side. A step is affixed to the tail of the wagon. Leather-covered seats, capable of being folded out of the way, extend along each side of the ambulance, which is protected from weather by a roof and removable curtains of white canvas, supported by framework. The litters can be carried folded in a compact bundle, when not in use, in a sling on the outside of the wagon. Another sling accommodates an extra pole.

The Inebriety Cure in London.—Dr. Keeley has taken his "cure" to London, and after consultation with a certain Texas colonel, of sporting and political fame, has

decided to submit his treatment to the critical examination of Mr. Henry Labouchere, editor of a weekly newspaper! This is a pleasant and modest way of finding the truth. We submit to expert Labouchere the following item from the *Pittsburg Dispatch:* "Eleven graduates of the Keeley Institute are now inmates of the Illinois Eastern Hospital for the Insane, at Kankakee; ten of these had never been previously confined in a hospital."

The Death of Professor A. W. von Hofmann, Professor of Chemistry in Berlin, is announced. Professor Hofmann was the discoverer of the aniline dyes, and indirectly modern bacteriology is due to Hofmann's work.

The Sixtieth Annual Meeting of the British Medical Association will be held at Nottingham on Tuesday, Wednesday, Thursday, and Friday, July 26, 27, 28, and 29, 1892.

A Medical Memorial.—Mr. Lawson Tait lately unveiled a fountain and clock tower, at Willenhall, to the memory of Dr. Joseph Tonks, a young doctor of thirty-five. The day was observed as a general holiday. At the dinner in the evening, Mr. Tait is reported to have said that honors for the medical profession were not very common. They got a few honorary degrees—though those were not worth much—which often they did not deserve; then there were a few titular distinctions, such as knighthoods and baronetcies. He had had the pleasure of refusing the one, and he did not expect he should ever have the chance of refusing the other. If he had his choice of honors he should be inclined to say: "Set up to me in the market-place a clock and a fountain, which would keep the people punctual and would slake the thirst alike of tired men and beasts." He had rather have that dead than a baronetcy alive.

The Fuchsin Bodies and Cancer.—Dr. Sims Woodhead, in his Morton Lecture on the Etiology of Cancer, corroborates Dr. Russell's observations as to the presence and probable importance of the fuchsin bodies in cancer.

German Congress of Internal Medicine.—At the sitting of the Congress of Internal Medicine, on April 22d, Professor Rosenstein, of Leyden, spoke on chronic hepatitis. In Germany, he said, the opinion still prevailed that the two morbid conditions of the liver are only different stages of the same disease, and that the stage of enlargement precedes the other. Professor Stadelmann, of Dorpat, declared inadequate the reasons adduced for the opinion that hypertrophy and atrophy of the liver were different diseases. Among the causes which specially favor the latter condition he mentioned the copious consumption of alcohol, chronic lead-poisoning, syphilis, tuberculosis, and malaria, but maintained that there were many cases of which it was impossible to trace the cause. Nor were the causes of jaundice, one of the most characteristic symptoms in the hypertrophic stage, sufficiently cleared up. Professor von Frey, of Leipsic, reported the important fact, ascertained by experiments on animals, that the jaundice which follows the closing of the biliary passages leading from the liver did not supervene if the ductus thoracicus was ligatured. Dr. Israel, of Berlin, reported the results of his investigations on the secondary alterations in the organs of circulation when the action of the kidneys was insufficient. Dr. Krönig, of Berlin, gave an account of an injecting apparatus which he had constructed. Dr. Schmidt, of Breslau, showed microscopic preparations in which the characteristic formations of pulmonary asthma in the smaller bronchi were beautifully visible. Dr. Martins, of Rostock, reported the results of a series of very careful chemical analyses, undertaken with a view to ascertaining the quantity and the manner of the appearance of the hydrochloric acid in the stomach in digestion. He stated that it is secreted in the stomach, uncombined, immediately on the entry of the food. Professor A. Fränkel, of Berlin, spoke on cancer of the costal pleura. Dr. Hoppe-Seyler, of Kiel, reported his investigations of the fermenting processes in the stomach, and of the gases developed by them under various conditions. Professor Unverricht, of Dorpat, discussed the manner of the occurrence of Cheyne-Stokes breathing under the influence of various poisons and morbid processes, and explained it as a symptom of cerebral collapse. The following three speakers treated of tuberculosis in connection with the comparatively small number of cases in proportion to the enormous opportunities of infection, and arrived at the conclusion that far more people were infected than was known. In the greater number of cases the tubercle bacilli were rendered, either permanently or temporarily, harmless by the resistance of the tissues of the body. In the latter case they remained in the body as latent foci, which become active when the resisting power of the body diminished. Dr. Spengler, of Davos, reported the results of the treatment of pulmonary phthisis with tuberculin and tuberculocidin (tuberculin purified by Klebs) combined. Dr. Cornet, of Berlin, drew attention to mixed infections in pulmonary tuberculosis, and maintained that the dangerous feverish conditions which set in with rapid decay of the lung-tissue, in the course of otherwise slow pulmonary tuberculosis, were not due to the tubercle bacillus alone, but to other bacteria also—streptococci, staphylococci, etc. The first speaker on the 23d was Dr. Mannaberg. His discourse was on the subject of malaria, and he maintained that the semilunar micro-organisms appearing in malignant cases were neither products of degeneration nor a definite species of disease germs, but cyst-formations produced by the fusion of two or four of the young micro-organisms in the red blood-disks, and generating new ones by sporulation. The Congress was closed by the Chairman, Professor Kürschmann. Next year's Congress will meet at Wiesbaden.—*The Lancet.*

In a Discussion on the Dispensary Abuse before the Lenox Medical Society, Dr. W. K. Simpson stated that while the dispensaries were founded on the idea of charity, the element of charity in them has almost disappeared. It is difficult to ascertain the patients' status, as they make false statements. Two-thirds of the people who go to the Vanderbilt Clinic give fictitious names and addresses. The physicians who attend at the dispensaries should receive a fair compensation for their work. People who apply at the dispensary one day should not be treated (except in emergency cases) until the day after, thus giving time for investigation.

A New Hospital, called Grace Church Hospital, is to be built in this city soon.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Seventh Annual Meeting, held at Washington, May 24, 25, and 26, 1892.

DR. HENRY M. LYMAN, OF CHICAGO, PRESIDENT.

FIRST DAY, TUESDAY, MAY 24TH.

President's Address.—DR. LYMAN, in his brief address, referred in eulogistic terms to two recently deceased members, Dr. Donaldson and Dr. Bowditch. No epoch-making discovery had been made in medical science during the year. Suggestive studies, however, had been made in electricity, tending to show it depended upon motion in an ether; in microscopic studies bearing upon fecundation and heredity; opposing views, explaining the same phenomena by chemical and physiological forces. Among valuable works which had appeared during the year had been Eichorst's volume on medicine, Osler's on the practice of medicine, and others by French authors. The world, he said, could no more dispense with the service of the French than with those of the Germans.

A Bacteriological Study of Drinking-Water.—DR. V. C. VAUGHAN, of Ann Arbor, Mich., in his opening remarks in a paper on this subject, stated that he had no new discoveries to announce, but simply wished to make a communication on the results of his labors in the study of drinking-water the past three years. They were both chemical and bacteriological. During this time he had made a study of one hundred and forty-eight samples of water sent him from different places. In most instances they were suspected of being the cause of disease, usually typhoid fever. It had been found that the number of germs in a drop of water varied greatly, and bore no constant relation to the amount of organic matter in the water as determined by chemical analysis. The question of the fitness of the supply as a drinking-water it was found could not be answered by the number of germs. During his investigation it was recorded in what manner the germ grew on gelatine plates, in gelatine tubes, on agar, on potato, etc., also the form and size of the germ, its reactions with staining agents, etc., likewise its effects upon guinea-pigs, mice, etc. He had given especial attention to those characteristics by which it had been proposed to distinguish the typhoid germ from other bacteria found in water.

They had found that many germs present in drinking-water did not grow at a temperature of the human body, and therefore they were incapable of inducing disease, including typhoid fever. The water, however, might not be desirable for drinking purposes. Of the germs which grew at 38° F., or a higher temperature, some were fatal to animals when injected subcutaneously, others were not. The former he distinguished as toxicogenic; the latter as non toxicogenic. He made a distinction between non-toxicogenic and pathogenic germs. In the case of non-toxicogenic germs, there was no proof that they could multiply in the animal body. Waters containing such germs had not been positively condemned, although he had advised in some cases that their use be discontinued. Some of the toxicogenic germs found in drinking-water produced the same symptoms, and the same post-mortem appearances in the animals experimented upon as were observed after the use of Eberth's germ. They not only lived, but multiplied in the animal body. He condemned all waters containing these germs. As to the statement that only Eberth's, or the so-called typhoid-fever germ, would form an invisible growth on potato, this had been shown not to be true, for more than one of the germs which he had found in drinking-water also produced invisible growth on the potato. The tests which had been advanced by Parietti, also that advanced by Uffellmann, for the Eberth germ were not reliable, since they applied equally to several of those which he had described. Thirty-one of the germs found in the one hundred and forty specimens of water had been studied sufficiently to admit of their identification. Twenty-four of these failed to grow at a temperature of 38° F., seven grew at this temperature, and of these seven, four killed animals when injected subcutaneously; three did not.

DR. STERNBERG said that there could be no doubt of there being species among these germs, as there were in the vegetable kingdom, with shadings into one another so gradual that it was sometimes difficult to place them. The typhoid bacillus, he said, did not always have an invisible growth on the potato, and other germs might have on the same vegetable an invisible growth. It would thus be seen that there was great difficulty in differentiating these lower organisms.

DR. WELCH, of Baltimore, doubted the propriety of using the term "toxicogenic" as distinguished from "pathogenic." He knew of no means of recognizing the Eberth germ positively, without it were obtained from the spleen of one dying of typhoid fever. He believed the test with milk thus far was the most useful one. He referred to the great liability of mistaking the bacterium coli communis for the typhoid and other germs.

DR. VAUGHAN said there was one part of this work which he had not been able to do, which was to obtain the spleens of persons dying from the disease produced by drinking the waters sent in for study, and studying them in relation to the germs found in the water. He had been able to exclude the bacillus coli communis in these investigations. He said there was no doubt but that in great cities typhoid fever commonly arose from drinking-water which had been polluted from typhoid stools, but his own investigations had been mostly in towns where the water was obtained from different sources. He believed that different varieties of the same germ, or different germs, might cause typhoid fever, and he did not believe that these necessarily had their origin in a previous case of typhoid fever. Again, there was evidence to show that in man, as well as in animals, a tolerance to toxic germs might be developed, so that a person might carry the disease (typhoid fever) to different communities while not suffering from its symptoms himself.

The Cold-Water Treatment of Typhoid Fever.—DR. G. WILKINS, of Montreal, in the first part of a paper bearing this title, referred to the work of Brandt, Liebermeister, and others. Having himself obtained better results from this method than from any other in a like number of cases, he was induced to give his experience. The total number of cases treated by him with the cold bath was thirty-nine. He had not, however, adopted it exclusively, for during the same period he treated nine cases by what may be termed the expectant plan. The greatest number of baths given any one patient had been thirty five. Nearly all patients objected to it; yet afterward they felt refreshed, and usually fell asleep. The temperature continued to fall for about half an hour. It usually fell altogether two or three degrees. The pulse was reduced from a few beats to eighteen or more. Two patients had died, one having had serious bronchial complications on admission. The duration of the temperature averaged thirty days; treatment was begun usually on the tenth day. The beneficial results were due in no small degree to reduction of the temperature, but also in large degree to the impression upon the nervous system. By action upon the vaso-motor nerves it caused the blood-vessels to contract, and forced the blood along and relieved internal congestion. Where the heart muscle had become degenerated, it was possible it might be overwhelmed by the amount of blood suddenly driven to it. Further contra-indications were hemorrhage and peritonitis.

Cold Baths at Johns Hopkins.—DR. WILLIAM OSLER, of Baltimore, said the deaths in 32 cases treated symptomatically at Johns Hopkins, prior to July, 1890, had been 7; in 107 cases treated since that date by the

Brandt method, the deaths had been 8. The results from the cold-water treatment had been practically those obtained in other large general hospitals, markedly better than by other methods. In only 89 of the 107 cases was the bath indicated or resorted to, as the temperature did not rise above 102.5° F.

DR. F. P. KINNICUTT, of New York, said he had not the statistics of typhoid fever in St. Luke's Hospital with him, but he thought they confirmed the experience already given, that the cold water treatment was attended by a much lower death-rate than any other. Indeed he thought it was the only method which could be entitled a treatment of typhoid fever. The largest number of baths, 175, were given a patient, son of a physician, who was the most ill of any whom he had ever known to recover.

Credit to Hiram Corson.—DR. WILLIAM PEPPER, of Philadelphia, wished to give credit to Dr. Hiram Corson, of Montgomery County, Pa., a practising physician, ninety years of age, for having persistently and systematically used cold-water treatment in infectious diseases, especially typhoid and scarlet fever, the past sixty years. He said that Dr. Wilson, of Philadelphia, had done more than any other American to introduce the method here generally among the profession.

Dr. Pepper went on to confirm the very excellent results related by others as attending the cold-bath method in typhoid fever, and said that where it could not be applied much benefit was found in the cold pack. The labor of applying the bath was less, however, than that of the pack. He had introduced a collapsible tub, which could be used in private as well as in hospital practice, and hoped there would soon be statistics of collective investigation showing the value of the Brandt system in private practice. He also impressed the value of thorough friction following the bath.

DR. J. E. ATKINSON, of Baltimore, spoke approvingly of the method, but said it should not be forgotten that there might be serious and fatal cases of typhoid fever in which the temperature never rose above 102° F., or to that at which the bath was said to be indicated.

DR. W. G. THOMPSON, of New York, said that during the past two years he had treated forty-eight cases of typhoid fever by the Brandt method at the New York Hospital, with a mortality of about seven per cent., whereas the previous mortality by other methods had been about nineteen per cent. He attributed the benefit less to reduction of the temperature than to the nervous influence of the shock from the water, and afterward the friction. He thought the danger of hemorrhage from driving the blood to the internal organs had been much exaggerated.

DR. TYSON, of Philadelphia, had not thought that friction was important except for its influence upon the patient's mind.

DR. STOCKTON thought the baths might prove beneficial in cases in which the temperature never rose to 102.5° F., by favorably influencing the nervous system.

Report of 2,012 Cases of Alcoholism, of which 87 were Maniacal.—DR. T. S. LATIMER, of Baltimore, read a paper giving a brief history of 2,012 cases of alcoholism, less than one-half of which he had reported in a previous paper. Eighty-seven of the total number were maniacal. Nearly all of the patients were arrested for drunkenness or misconduct of some form due thereto. They were what were termed by jailers as "regulars." Some of them were addicted to the use of cocaine, chloroform, and other stimulants besides alcohol. It was apparent that they were a very unfortunate class of cases to treat, having been badly fed, badly clothed, badly housed, addicted to stimulants, often suffering from other diseases. Almost invariably they begged piteously for drink, which, however, was invariably refused. None remained delirious longer than five days. The average time before they were able to do what little work that was required of them was two days. By the second night they almost invariably could sleep well. Except in a very few instances the only drug given was bromide of potassium. The good result, however, was not attributed so much to the drug as simply to the withdrawal of alcohol, which was absolute and from the very commencement. No restraint was put upon the patients farther than to keep them shut in their cells.

The conclusions were: 1, That the clinical phenomena attending the excessive use of alcohol were the direct result of the stimulant, and were not due to abrupt withdrawal of it; 2, that the desire for the stimulants almost uniformly persisted; 3, that alcohol in any form or quantity was unnecessary in the treatment of such cases, and was usually harmful; 4, that absolute and immediate withdrawal of alcohol was of the first importance in treating the symptoms due to its use; 5, that forced feeding was rarely necessary; 6, that placing the patient in any kind of bands was unnecessary.

DR. GARLAND had seen two cases of fatal vomiting occurring in alcoholism, and inquired whether it were common.

DR. LATIMER replied that he had seen hemorrhage in only one case. He thought that where it existed it was due to cirrhosis of the liver, with the other changes which this implied.

DR. OSLER had seen one fatal case of hemorrhage in alcoholism, and in that patient there was cirrhosis of the liver.

Practical Results of Bacteriological Researches.—DR. GEORGE M. STERNBERG, of the United States Army, in a paper with this title stated that while science did not demand practical results, yet medicine, being eminently practical in its aims, sought to make practical application of the knowledge which science revealed. Bacteriologists had discovered a number of germs which were the cause of different diseases, without being able to propose a remedy based upon such knowledge. Recently, however, experimental evidence had been obtained which furnished reason for the belief that in a number of infectious diseases, at least, the toxic bacterial products which gave rise to the morbid phenomena characterizing these diseases might be neutralized in the infected individuals by the administration of anti-toxines obtained from the blood of immune animals. He reviewed some of the recent experimental researches relating to anti-toxines in the blood of animals which had an acquired immunity against cultures of the bacillus of tetanus, the micrococcus of croupous pneumonia, the bacillus of diphtheria, of tuberculosis, and against the virus of rabies. It was a question whether the anti-toxine in the blood of these animals was the product of the living cells of the body. If so, its supply would seem to be continuous. Dr. Sternberg suggested the possibility that the anti-toxine was not reproduced, but remained in the body, which would account for continued immunity. This view, however, seemed to be controverted in the case of tetanus, in which the young obtained immunity from the milk of the immune mother. In the case of this disease, tetanus, there had now been reported as many as six cases in which a cure had apparently been due to injection of serum into the circulation of the patient from an immune animal. Reasoning from analogy, it was thought possible that a cure might be effected in a similar manner in a case of other infectious diseases, such as scarlet fever, etc.

At the author's suggestion, Dr. Griffith, of Brooklyn, who had had a great amount of experience in the vaccination of cows, had carried out certain instructive experiments. He had inoculated a calf with one vaccine point which had been put into the blood-serum of another calf which had recently been rendered immune by vaccination; also by a vaccine crust from a child, recently vaccinated, emulsified in the same blood-serum. Neither point of inoculation took. Control experiments were made. Another animal was vaccinated by the usual lymph on one side, and on the other side by lymph put into the blood-serum of an immune calf. The former produced the typical sore, the latter had no effect.

Dr. Welch, of Baltimore, expressed hope that some practical value might come from the experiments with regard to tetanus and other diseases which had been referred to by the author. He believed, however, that, so far, they were open to doubt as to the interpretation to be put upon them.

Dr. Vaughan believed we should be very slow in drawing positive conclusions from the experiments which had been made by the Italians and others. It was well known that animals could be rendered immune for a short time against certain germs without great difficulty, but it had not been shown that the immunity would continue long. He was inclined to think that the action of the anti-toxines and the toxines must be in the nature of ferment. A great deal had been said about tox-albumin, but nothing as yet had been said about it in the pure state. He did not think that it was necessary that the substance to produce these effects must be, *per se*, poisonous. Temporary immunity might be produced in different ways; for instance, a few years ago a friend of his found that one of his patients ceased to have epileptic fits following circumcision. This he practised then on a number of cases, but soon it was shown that the relief was only temporary, and the practice was discontinued. The explanation of such temporary immunity was as obscure as that brought about by many other means.

Dr. Lyman had been of the impression, some twenty years ago, that the action of toxine and anti-toxine was through fermentative process in the majority of cases.

Dr. Sternberg thought that the use of the term "ferment" in this connection threw very little more light upon the subject. He was inclined to think that the future of scientific medicine lay largely in the direction pointed out in his paper, and that, ere long, results would be obtained which would knock conservatism from under the feet of those who took this ground.

The Treatment of Experimental Tuberculosis by Koch's Tuberculin, Hunter's Modifications, and Other Products of the Tubercle Bacilli.—Dr. E. L. Trudeau, of Saranac Lake, N. Y., sent a paper with this title (read by Dr. Welch), of which the following were the conclusions:

1. Koch's tuberculin does not cure experimental tuberculosis in the guinea-pig, although its specific influence on the primary lesions is indisputable. 2. Hunter's modification C. B. contains less of the remedial principle than tuberculin, and is apparently quite as dangerous. 3. Hunter's modification B. is as efficacious as tuberculin, and is free from some of its dangers. 4. Solutions of bacterio-protein, obtained as described, from well-worked bacilli, have a doubtful, and, at best, feeble remedial influence on experimental tuberculosis. 5. They produce suppuration and serious constitutional impairment, which may result in organic disease and death. 6. The liquid culture medium in which tubercle bacilli have developed, but from which they have been removed by filtration, contains the elements which bring about reaction and cure in tubercular tissue. 7. Experimental tuberculosis in the rabbit's eye can be cured by injections of the filtered medium. 8. The permanency of such a cure has not yet been established.

Clinical Observations on the Use of Tuberculin, etc.—Dr. F. P. Kinnicutt said that at the time that Dr. Trudeau was to commence his experimental studies with tuberculin and Hunter's modifications thereof, it was understood that he (Dr. Kinnicutt) should at the same time make clinical observations in this direction. By mutual understanding, meanwhile, they had had no communication with one another upon the subject. Clinically his experience during the past eighteen months had fully confirmed the experimental studies upon tuberculin and Hunter's modifications thereof as made by Dr. Trudeau. He had found that tuberculin contained a remedial principle, but being a complex substance it was impossible to separate the harmful from the beneficial results. So far as Hunter's modification C. B. was concerned, he had ventured to use it in only one case, for the reason that it had proved dangerous.

Hunter's modification B. had proven as efficacious as tuberculin, while it was free from some of its dangers. He had treated seven cases with this modification, with the result that in two there was no change in physical signs, although improvement in the general condition took place; in one there was most marked improvement in the physical signs; in others improvement, though somewhat less marked; in the seventh case, so far as it was possible to say that a patient with tuberculosis could be cured, the cure was absolute.

Dr. Welch remarked that the studies of Dr. Trudeau had been carried out in a faithful manner, with the full knowledge of the possible sources of error. They merited the serious consideration of the profession.

The Late Systolic Murmur.—Dr. J. P. C. Griffith, of Philadelphia, read a paper on this subject, reporting three cases of late systolic murmur, in two of which the murmur was audible at the latter portion of the period between the apex beat and the second sound of the heart. The third case had a murmur in the middle portion of this period. The cases appeared to indicate that there was no appreciable pause between the termination of the systolic and the occurrence of the second sound. He held that the so-called "short silence" was not a period of cardiac inactivity. The title "post systolic murmur," which had been applied to such cases, was a misnomer, since the cases occurred during systole and not after.

Second Day, Wednesday, May 25th.

Etiology and Pathology of Dysentery.—Dr. W. P. Councilman, of Baltimore, read a paper on this subject. It was based on the study of thirty-four autopsies at Johns Hopkins Hospital. As a result of his studies, he had divided dysentery into three forms: 1, Diphtheritic; 2, catarrhal; 3, amœbic. The latter was distinguished from the others, not only anatomically, but also etiologically. He devoted considerable space to a consideration of the anatomical changes found in this form, which will be given later.

The diphtheritic form was characterized by necrosis of the epithelium and by fibrinous exudation. It was this form which was usually met with in acute epidemics, but it might appear in the course of a number of diseases and be produced by a number of causes. Accompanying the process there might be more or less suppuration. Diphtheritic membrane being cast off, left irregular ulcers. Although ulceration was not a prominent feature usually, still it might be so extensive that only islands remain. In the more acute cases the inflammation extended to the peritoneum. This was the form found in eleven of the thirty-four cases. Among the eleven, other conditions present were: Chronic nephritis in four; acute nephritis in one; bronchitis and broncho-pneumonia in one; amyloid degeneration in one; cirrhosis of the liver in one; peritonitis in one; septicæmia in one; acute gastritis and enteritis in one. There was nothing in the anatomical lesions in the diphtheritic form by which one could distinguish the action of a definite pathogenetic agent.

The catarrhal form included cases which could not be made to come into the diphtheritic or amœbic forms. The name catarrhal had obviously been ill-chosen. These cases were characterized by an inflammation of the mucous surface leading to the production of shallow ulcers. Changes in the lymphoid cells were more common than in the other forms. It was really attended by abscess of the liver. Out of the thirty-four cases, fifteen belonged to the catarrhal class. Among complicating conditions were carcinoma of the stomach, phthisis, general paralysis of the insane, bronchitis, broncho-pneumonia, malarial fever, fatty degeneration of the heart and kidneys, etc. In but three of them was the dysentery chronic. Regarding the etiology of the catarrhal and diphtheritic forms we were still much in the dark. In the catarrhal,

the lesions were so various that it was impossible to believe they were all due to one cause. Klebs and others had described certain bacteria found in these forms, but that they were the specific cause had not yet been proven.

Amœbic dysentery was characterized by definite anatomical lesions and by a definite etiological factor. Eight of the thirty-four cases were of this kind. While the lesions varied somewhat, they all had something in common. There was generally a thickening due to an œdematous condition, circumscribed projecting nodules with small cavities filled with pus. The elevated nodules varied in size, and were situated in the sub-mucosa. The opening into them was frequently not larger than the head of a pin, or it might be so large that the whole cavity was exposed. The base of the ulcers was clean and formed by the muscular coat. The cellular infiltration extended through it into the sub-serous coat. The changes in the mucous membrane were for the most part secondary to those in the muscular coat. There was little change in the mucous membrane at a distance from the ulcers.

The author here passed to a description of the amœbæ which were found in the stools and intestines, sometimes in liver abscesses, etc. They might be in either the active or inactive state. They possessed two kinds of movement, the progressive and that limited to protrusion and retraction. As a rule, they were most numerous in the smallest ulcers where the process was most rapidly advancing. It seemed probable that they reached the submucous tissue, producing few lesions in the mucous membrane, this being attacked from below.

Abscess of the liver was present in seven of the cases. In four of them there was more than one abscess. In all the right lobe was affected, in two the left lobe also. Abscess of the lung was found in three cases, in two of which the diaphragm had been penetrated from the liver. The lesions produced by the amœbæ in the different organs were all of a kind. They caused necrosis and liquefaction of the cells and inter-cellular tissue.

There was no doubt but what amœbic dysentery was a widespread disease. Most of the cases, however, had occurred in tropical or sub-tropical regions, especially among Europeans visiting those regions.

Symptomatology, Complications and Treatment of Dysentery.—Dr. A. B. Ball, of New York, read a portion of an extensive paper on these subjects. Tormina and tenesmus were not, as had been claimed, always present in dysentery. Speaking of malarial complications, he said that they might undoubtedly exist, but disclaimed that the dysentery was due to the poison which produced the malaria. In tropical climates especially might the course of the dysentery be modified by malarial complications. The presence of joint complications had not been proven to be due to rheumatism or pyæmia. They were of the form which might be found in a variety of infectious diseases, and seemed to be due directly or indirectly to the primary affection. Dysenteric paralysis sometimes occurred in both the acute and chronic form. It usually lasted from three to twenty-eight days, and might be more or less distributed. Its cause had been claimed by some to be central, by some peripheral. Dr. Weir Mitchell had observed it in the hospitals during the war in a number of cases, and had stated that privation, bad food, and several conditions had existed as possible causes. Proper food and housing had in many caused so rapid disappearance of the paralytic symptoms, that he had been led to think it was possibly due to exhausted nerve functions.

Treatment of Dysentery.—Speaking of the treatment of dysentery, this had been variable, and he thought it not unlikely that the good results attributed to certain measures obtained in some cases and not in others might be accounted for by different etiology in the several forms. The ipecac treatment, which had originated in India about thirty years ago, had for some years received much support in that country, and to some extent elsewhere. Here, however, it had not obtained a strong foothold, which was to be accounted for partly by the depressing effects which the treatment produced in some cases, and partly to the fact that its advantages over other and less objectionable methods had not been proven. It seemed to be most successful in the dysentery of the tropics, and perhaps in the amœbic form. The opium treatment, which had been widely adopted in this country through the teachings of such men as Chapman, Flint, and Loomis, did not receive the author's warm endorsement. It had been claimed that the action of opium was not only astringent and anodyne, but that it also was antiphlogistic. Dr. Ball could not understand the reasoning on which this statement was based. One should not forget that disease could not be cured merely by suppression of its symptoms. Experience had taught him to more and more distrust the fallacious effects of opium in dysentery. Calomel seemed to have fallen into considerable disfavor, but he thought the reaction had probably gone too far, and that we were in danger of losing a valuable drug because of the misuse of it. Corrosive sublimate had been used and seemed to have a special tendency toward the colon, and perhaps rendered the soil unsuitable for the development of organisms. The author gave some space to a consideration of the irrigation method, which he thought was valuable. There was a possibility of producing fatal perforation by over-distention, though he did not consider this danger great. Speaking of the dietetic treatment, he said that in chronic dysentery he had found the use of meat of great value.

Treatment of Acute Dysentery by Antiseptic Colon and Rectal Irrigation.—Dr. W. W. Johnson, of Washington, read the paper. He advocated the local treatment of the disease based on the fact that the affection itself was local, confined to the colon and rectum. If the conditions present existed upon the outside of the body, no one would think of treating it except in one manner, namely, by the removal of the cause and the observance of cleanliness. If the mechanical difficulties could be overcome, there was no reason why the same treatment should not be applied with the disease situated in the bowel. The rationale of the method was shown in the fact that we had a local inflammatory process with rapid infiltration of tissues; a tendency to ulceration and necrosis, and extensive destruction; decomposition and retention of decomposing solids and fluids in the bowels would result in auto-infection; also the probable dependence of these conditions upon the introduction of a parasite. The author here briefly referred to the treatment of dysentery by cold and warm water irrigation and antiseptic irrigation. The early methods of antiseptic irrigation had been faulty, in that the fluid had been allowed to remain in the bowel for a greater or less period of time, and was liable therefore to cause poisoning. At present it was the custom to allow the water to flow out almost immediately, and without much distention of the bowel. He preferred to use two tubes of rather large size, Nos. 17 and 19 English, one for the introduction of the fluid, the other for its exit. A Davidson or Fountain syringe might be employed. In some cases simple rectal irrigation was sufficient, while in others the tube should be carried higher, if possible, even beyond the ileo-cæcal valve. While no doubt water could be injected beyond this valve, yet it was very difficult to pass the tube by it. Much force should be avoided, because of the danger of perforation at the seat of some ulcer. When the amount thrown in did not exceed the out-flow, there need be no limit to the quantity used. The washing might take place once in three hours, less frequently when the discharges became diminished and had less odor, and there was less mucus. Relapses should be at once met with local treatment. The water might be plain or contain an antiseptic, be hot or cold.

A Contribution to the Study of Hepatic Abscess.—Dr. W. C. Dabney, of Virginia, read a portion of a paper

which he had prepared on this subject. Regarding the channels through which the bacteria or their products reached the liver, they might be the blood-vessels, the lymphatics, or the bile-ducts. Although the word pyæmia in connection with hepatic abscess has been used in two different senses, he recommended that it be restricted to its more ordinary meaning. He had not found any case in which the abscess had been clearly due to tubercular ulceration of the bowel. The ulceration of typhoid fever was not largely the source of abscess of the liver. In one of his cases there had been a history of typhoid fever three years before, with bowel trouble from time to time since; yet in this case the hepatic abscess contained amœbæ. In dysentery hepatic abscess might develop within two or three weeks, or not until a much later period. One could not set a definite period when the danger of hepatic abscess was over. A frequent origin of the abscesses was injury. He had found only three cases in the "Medical and Surgical History of the War of the Rebellion" which had been caused by a penetrating wound. Where the abscess formed after blows it usually took place within a few days—four to thirteen.

The usual seat of the abscess was in the right lobe, whether single or multiple, and oftener in the upper than in the lower part. Where the abscesses were multiple, the longer they lasted the more likely were they to break into one another; but the possibility of this occurrence did not justify delay in surgical treatment. He believed that the bursting of one abscess into another which had been opened was a comparatively frequent occurrence.

The contents of the abscess were sometimes so thick that they could not be withdrawn on aspiration. There was a sterile condition of the contents in a number of cases. Neither pain nor tenderness was conclusive evidence of adhesion. The symptoms of hepatic abscess, though usually well marked, were sometimes obscure or entirely absent. Their onset was usually gradual; sometimes sudden. Fever was usually present, but the temperature seldom went above 102° F. Jaundice was more frequent than was commonly supposed. He believed it was due to pressure on the bile-ducts by adhesions, or to gall-stones. The condition of the bowels was of little value as an indication of hepatic abscess. Disturbance of the nervous system except for distention or pain in the region of the liver was rarely mentioned. Disturbance of respiration was rather common. Where albumin was present in the urine, it probably had no connection with the hepatic abscess. As to pain, sometimes it was quite steady, sometimes it came in paroxysms. Enlargement of the liver was usually present. Fluctuation had been mentioned in only 8 of the 108 cases which he had collected, and which he had made the basis of this paper.

Dr. Prentiss, of Washington, presented some large gall-stones, which had been passed by a woman who had given no other symptoms than those of pain in the intestines; evidently they had ulcerated into the intestine. Their passage had been followed by complete relief from the symptoms.

A Case Presenting the Symptoms of Landry's Paralysis, with Recovery.—Dr. F. T. Miles, of Baltimore, related the case. It occurred in a previously healthy man of good habits; commenced by a feeling of coolness and numbness in the lower extremities, extending upward until it had invaded the arms; at the same time there was gradual loss of muscular power from below upward. When he saw the man eleven days after the commencement of the symptoms there was complete paralysis of the limbs and great weakness of the muscles of the trunk and abdomen, sensation was apparently normal. The reflexes were completely lost, while the reaction to the faradic and galvanic currents was normal, the sphincters were absolutely intact. The facial nerve also became involved, and breathing became difficult. Having reached this point, the disease rapidly retrogressed, and by January 13th, a little over a month after the commencement of the attack, the patient was able to walk alone.

Dr. A. McPhedran, of Toronto, related a similar case. The illness began December 2, 1891, reached its maximum about December 20th, and by February 3d the patient was able to walk again. The electrical reaction in this case continued normal throughout; the paralysis of the extremities had been complete. The trunk and neck were also involved; speech was somewhat thick; swallowing slightly difficult; no trouble with breathing; bladder and rectum acted normally; knee-jerk absent.

Dr. Carey, of Buffalo, had seen a similar case, with recovery. In this instance the rectal sphincter was affected.

Dr. W. H. Thomson, of New York, had recently seen a case of Landry's paralysis in which at the post-mortem no evidence of peripheral disease was present. In another case still under observation the paralysis began in the left leg, extended to the right, to the lower part of the body, to the arms; caused great difficulty of respiration; no difficulty of deglutition, no bulbar symptoms; paralysis of the lower jaw. In fact the disease seemed to stop just short of involving the bulbar centres. The sphincters were not affected. The symptoms had in a large measure passed off. There had been no loss of electrical excitability, no atrophy, no sensory symptoms.

The Areas of Anæsthesia in Spinal Cord Lesions as a Guide to Localization.—Dr. M. A. Starr, of New York, read the paper. He said that it had been his good fortune the past two years to observe a number of patients suffering from disease in or about the lower half of the spinal cord who had presented disturbances of sensation. These, and others recorded in literature, formed a basis of some conclusions regarding the diagnostic value of such areas of anæsthesia. They went to show that a limited area of anæsthesia was produced by a limited lesion in the spinal cord; that, as the lesion extended from below upward, the area of anæsthesia extended upon the surface of the body, and that the extent and shape of the anæsthetic surface indicated the location of the lesion in the cord.

Of eighteen cases on which his conclusions were based, seven had occurred in his own practice; one in that of Rosenthal, one in that of Westphal, one in that of Oppenheim, Huber one, Bernhardt one, Osler one, Mills one, Herter one, Eulenberg two. Diagrams were shown illustrating the area of anæsthesia corresponding to the lesions, more especially in the sacral segments of the cord. An interesting case was that occurring in his practice in which the lesion was clearly in the upper lumbar portion of the spinal cord, causing complete anæsthesia from the waist down except over the buttocks and upper posterior portion of the thighs, corresponding to the sacral segments, showing that this portion of the cord had entirely escaped. The sphincters were usually involved together, and it was evident that their location was close together, and probably lay in the two lower sacral segments. In locomotor ataxia the disease began almost uniformly in the lumbar cord, not in the sacral cord, as shown by the fact that the disturbances of sensation were rarely referred to the buttocks. It was not until the first lumbar segment had become involved that the anæsthesia got as far up as on the abdomen. A study of the areas of hyperæsthesia confirmed the conclusions reached from a study of the areas of anæsthesia. Where the anæsthetic condition extended into the previously hyperæsthetic, it showed farther extension of the myelitis. A study of the anæsthesia alone did not offer much in differentiating between lesions of the cord and those of the cauda equina.

A Study of the Seasonal Relations of Corea and Rheumatism for a Period of Fifteen Years.—Dr. Morris J. Lewis, of Philadelphia, based this study upon the months of onset of 1,383 separate attacks of chorea, and 673 separate attacks of acute inflammatory rheumatism; 666 of the attacks of chorea occurred in Boston, and the remainder

in Philadelphia. The fewest attacks of chorea occurred in October and November. The greatest number in March and April. The greatest number of attacks of rheumatism occurred in April, the fewest in autumn. There was considerable resemblance in general form of the diagram tracings for the diseases in question to the tracings showing the number of storm-centres passing within four hundred miles of the two localities mentioned. Also, marked resemblance to tracings showing mean actual barometer and mean relative humidity. These facts tended to show that chorea and rheumatism were evidently seasonal diseases. He regarded over-study as a predisposing, but not an exciting, cause of chorea.

Dr. M. Allen Starr, of New York, said that a study of 356 cases of chorea which had appeared at his clinic the past four years went to confirm the statements of Dr. Lewis. The attack in 34 occurred in March; 34 in May; the smallest number in the autumn. Fright had been attributed as the cause in 69 cases. The heart was found normal in 199. In eighteen per cent. there was a distinct history of rheumatism. There was an organic heart-murmur in 64; a functional murmur which subsequently disappeared in 56. He thought we had to look for different causes. The largest number of attacks occurred in the spring, because the existence of several factors culminated at that time in the greatest disturbance of nutrition.

Dr. Weir Mitchell said that in Philadelphia the patients with chorea appearing at the clinics were not from the lowest and poorest class, but rather from the mechanics and those above. It was a noticeable fact that chorea seldom occurred among the blacks, whose hygienic conditions were surely not always of the best.

Dr. Henry thought that Dr. Starr's statistics would indicate a greater proportion of cases of chorea depending upon rheumatism than eighteen per cent., for, as would be seen, they showed a large number of cases with heart lesion, which was in itself evidence of rheumatism.

Dr. A. Jacobi, of New York, said that there were many more cases of rheumatism in children than were diagnosticated. Growing pains were frequently of this nature. The latest statistics had shown the existence of rheumatism in about thirty per cent. of cases of chorea, and he thought that Dr. Starr's figures would, on analysis, be found to show about the same per cent. As has been suggested, the various conditions existing or surrounding children during the winter months tended to bring about that lowered state of nutrition which culminated in an attack of chorea in the spring.

Dr. Lyman, the President, made some remarks confirmatory of the view that chorea occurred oftenest among children with a tendency to the arthritic, the scrofulous, and other diatheses.

Dr. William H. Thomson thought the paper was a valuable one in helping us to get rid of fallacious causes of chorea. For instance, it was easy to draw out a history of fright by suggestive interrogations; yet, if this were a real cause, it must be that more children were frightened in the spring of the year than at any other time.

The Significance of Intermission in Functional Nervous Diseases.—Dr. William H. Thomson, of New York, read a paper upon this subject. The term functional had been applied to those nervous diseases in which no characteristic organic changes had yet been demonstrated. Most writers, however, regarded the term as only provisional, on the assumption that some kind of structural change in nervous matter must be the cause of every definite nervous disorder. Dr. Thomson challenged this view, which implied that it was necessary in some instances to look elsewhere than to the nervous system for either cause or remedy. The question, therefore, whether there were any distinctive features pointing to functional nervous diseases as opposed to those depending upon organic change in nervous structure, becomes of more than theoretical interest. He suspected that the main reason why all specific nervous disorders were ascribed to some corresponding derangement of nervous texture was, that every known organic nervous lesion was always accompanied by corresponding symptoms of functional derangement. This must necessarily be so. But this did not imply that derangements of nervous function must always depend upon derangement of nervous structure.

The first reason offered for drawing a distinction between the two classes was that in organic nervous disease the symptoms were always present, in the functional they were intermittent. Even grant that there might be diseases due to molecular, and therefore ultra-microscopic, changes in nervous matter, how would such changes explain intermission when molecular changes in every other case produced symptoms which were abiding as were those due to any other changes? Besides, no definite idea could be obtained from the molecular hypothesis.

There was always something plus mechanism (here the nervous system) needed for working, and that something was a source of energy (here the blood) which would work the mechanism. A lamp might be perfect as a piece of mechanism, but its function (to give light) would be imperfect if it were given oil mixed with water. The energy derived from the circulation caused the nervous system, glands, and other structures to work, and if this were faulty the work would be imperfect although the mechanism showed no molecular change. The blood was, he held, more than simply a nutritive and energizing fluid; it was a living tissue as well, owning a living birth and origin as much as the muscular and nervous tissues. It possessed hereditary faults of development as much as did nerve-fibre. If so, persistency of symptoms due thereto might be just as strong in the one as in the other. Were the distinctive features of neuroses, of which intermittency was one, best explained by the hypothesis of textural changes, or were they best connected with the more easily varied states of the functionating element of the living mechanism? He answered the latter, after, however, offering in argument the action of poisons, which showed intermittency and absence of appreciable structural change. These poisons might be drugs taken within, or such as were developed within the body, which modern chemistry had shown to be so numerous. These views applied to treatment would lead the physician to look for aid in the advancement of knowledge relating to the chemistry of diet. He should, in epilepsy, for example, look carefully for any evidence of perversions of gastro-intestinal function, or of secondary assimilation or excretion. Family histories of such perversions should especially be taken into account. Gastro-intestinal antiseptics should be studied as a particular branch of therapeutics. The value of a certain class of purgatives, conjoined with the administration of antiseptics, had been particularly impressed on his mind in the treatment of migraine, hysteria, and melancholia with quickened pulse. Lastly, investigation of leucomaines was of equal importance in a great variety of morbid states with functional disturbances.

Directed by these three principles, suggested by the progress of organic chemistry, he thought that our treatment of functional diseases would be much more effective than if we continued to seek for mere drugs with specific properties, or fruitlessly awaited the verdict of pathological anatomy.

A Collective Investigation in Regard to the Value of Quinine in Malarial Hæmaturia or Malarial Hæmoglobinuria.—Dr. H. A. Hare, of Philadelphia, read the paper. Of the replies received, chiefly from Southern physicians, he had been able to utilize one hundred and fifty-five. Fifty-four of these stated that malarial hæmaturia was seen frequently; fifty-one regarded it as most dangerous; very few as not dangerous. Some put the death-rate at twenty five per cent. Nineteen with experience stated that quinine in this condition was useful, twenty-eight as harmful, twenty-seven that they had seen it produce an attack.

The author said that bloody urine might occur in malaria in a number of different ways and in a variety of malarial affections, and went on to state those ways and conditions. Individual idiosyncrasy had much to do with it. This should especially be taken into consideration in treatment. Quinine, for instance, might or might not be useful according to the cause. There was no doubt but that this drug did cause blood to appear in the urine in some persons of hemorrhagic tendency. Malarial fever predisposed some persons to this influence of quinine. The necessity for caution was evident.

Dr. Atkinson had seen many cases of hæmaturia in malarial cases, but had not attributed it to quinine, which in many instances had been administered before the patients came under his observation; or, if this agent acted as an exciting cause, it was owing to individual idiosyncrasy.

Dr. Tyson thought quinine would prove a prophylactic in districts where malaria existed and was the cause of hæmaturia. If the quinine itself ever caused the bloody urine, it was owing to individual idiosyncrasy.

Dr. Stockton believed the hæmaturia could in many cases be controlled by large doses of alum—a gramme every hour—as advised by Dr. Didama.

Dr. Henry doubted whether other causes of the hæmaturia had been excluded before attributing it to quinine or even malaria.

Dr. Vaughan had seen a great many cases of malaria in Southern Illinois, Michigan, etc., but had not been able to trace it as a cause of blood in the urine, nor had he known quinine to cause hæmaturia. It followed that hæmaturia in malarial cases in the South must depend upon something else than quinine or the malarial plasmodium.

Dr. Loring had seen much of malaria in all parts of the East and Middle of the United States, also in the West Indies and South America, and had seen hæmaturia only in the South, seldom even there, never as caused by quinine.

Election of Officers.—Officers were elected as follows: *President*, A. L. Loomis, of New York; *Vice-President*, Reginald H. Fitz, of Boston; *Treasurer*, W. W. Johnston, of Washington; *Secretary*, Henry Hun, of Albany; *Recorder*, J. Minis Hays, of Philadelphia; *New Member of Council*, A. B. Ball, of New York.

Third Day, Thursday, May 26, 1892.

Misconceptions and Misnomers Revealed by Modern Gastric Research.—Dr. Charles G. Stockton, of Buffalo, read the paper. Reference was made to the condition described by Murchison twenty years ago, known as lithæmia. Growing out of that idea, a complete withdrawal of carbo-hydrates had been advised. From this point it was taught that meat constituted the proper diet for typical gout. But how was it that with the gouty meats disagreed in England and agreed in America? Observation taught him that the difference was due to a misconception; that gout was rare in America, while lithæmia, not meaning gouty diathesis, was here very common.

Wherever mental strain, "nerve tire," and imperfect oxygenation were seen, there was witnessed that group of phenomena that was here denominated lithæmia. He held this was not gout. Careful study of such cases showed the frequency of connection with digestion, and he believed such connection always existed. The condition was, then, a toxæmia of gastric origin.

The patients that did not digest meat well, had hypohydrochloric acid secretion; when, on the other hand, there was hyper-hydrochloric acid secretion the albuminoid often afforded immediate relief. Exercise, however, was also necessary. Neurasthenia, vertigo, persistent headache, muscular spasm, epileptiform convulsions, etc., were among conditions induced by gastro-intestinal toxæmia. A careful examination of the stomach was important in all cases.

The Production of Tubular Breathing in Consolidation and other Conditions of the Lungs.—Dr. Charles Cary, of Buffalo, in the first part of a paper bearing this title, presented the commonly accepted ideas regarding the cause of sound called bronchial, or tubular breathing. If these in part were not erroneous, they at least did not cover all of the causes. About three years ago, he had taken up, with a view to throwing light on obscure points on this subject, some experimentations believed to be original. Since then, however, he had learned that the same experiments had been carried out by others. They consisted in part in making metallic casts of the air-passages by pouring into the trachea an alloy which fused at a low temperature, 65° C. By this means he had obtained exact and durable casts of the trachea, larger and smaller bronchi. The surrounding lung-tissue was afterward eaten away by caustic potash. He particularly invited attention to the method of division of the bronchial tubes, which took place quite uniformly, and at the same angle. Also that the air reached the air-cells only after passing through a long route, varying its course at the different points of bifurcation. Furthermore, that at the points of bifurcation, there was a sharp edge to the bronchial tube which acted as a prow, cutting the column of air. It was to the blow at these points of division, that he attributed in a measure the so-called tubular breathing and the variations in pitch. This tubular blow would be induced whether the air was passing in or out of the lungs. There were modifying conditions, of course, as there were in the case of other sounds connected with breathing. If the tube, for instance, were partly filled with a secretion the pitch would be higher. He thought the reason why this explanation had not been offered before, was that the size of the tubes had been underestimated, as had also the acuteness of bifurcation. The other elements going to produce the bronchial, or tubular, breathing were the larynx and the trachea above.

Dr. Tyson thought that in a line with this explanation offered by Dr. Cary, the rhyma-glottidis had something to do with the production of the sound.

Dr. Mason mentioned adhesion.

The President, Dr. Hare, and others expressed their appreciation of the paper.

Different Forms of Cardiac Pain.—Dr. Samuel C. Chew, of Baltimore, opened his paper with the remark that cardiac pains were due to several affections which differed from one another both in nature and pathology. They were situated apparently, or actually, in the heart. We had no proper term by which to designate cardiac pain. The three divisions which he considered were true angina pectoris, which occurred in paroxysms, at first, at least, was accompanied by increased arterial tension, and was usually associated with aortic or coronary disease, or fatty degeneration of the heart. The pain was a peculiar one, being really something in addition to a pain, a feeling of impending death. Of two pathological conditions, coronary obstruction and fatty degeneration, we could only suspect their existence during life. Hence, the prognosis might be equally grave, whether an organic lesion of the heart was or was not recognized. Like in the other forms, it was difficult to determine the exact relation between the symptoms and the lesion. The immediate cause seemed to be neurotic. In this form he had obtained the greatest relief from the paroxysms by the nitrites, especially nitrite of amyl. Closely allied with this type was the cardiac pain associated with Bright's disease. Here the iodide of potassium in large doses might sometimes ultimately prove beneficial by lessening the arterial sclerosis. Nitrite of amyl again might relieve the pain. The third form considered occurred in dilatation of the heart, and it had been attributed to stretching and pressure upon the nerves. One of the best tonics was arsenic.

Dr M. A. Starr, of New York, mentioned two other classes of cardiac pain, namely, that occurring in connection with paroxysmal tachycardia, and the other in

what he had termed the vasomotor type of neurasthenia. He also referred to Nothnagel's article showing that the statement usually made, that cardiac disease was unaccompanied by pain, was an error.

Dr. Musser, of Philadelphia, insisted upon rest and careful attention to diet.

Dr. McPhedran had found nitro-glycerine preferable to nitrite of amyl, and said its effects were more lasting.

Dr. Stockton had often found cardiac dilatation at autopsy in which there had been no history of cardiac pain.

Dr. Chew thought that nitro-glycerine was useful for preventing attacks, but not for relieving them after they had come on.

Dr. Stockton related a case in which large doses of nitro-glycerine (half-grain) relieved the paroxysm, while nitrite of amyl failed.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LUMLEIAN LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS—SOME CURRENT OPINIONS TRAVERSED—DISCUSSION ON RENAL DROPSY AT THE MEDICAL AND CHIRURGICAL SOCIETY—SPEECHES BY DRS. W. H. DICKINSON, GEORGE JOHNSON, AND PYE SMITH—SIR JAMES CRICHTON-BROWNE ON SEX IN EDUCATION—THE MORTON LECTURE ON CANCER—THE ROYAL COMMISSION ON GRESHAM UNIVERSITY FOR LONDON—INFLUENZA.

London, April 30, 1892.

In the "Lumleian Lectures" recently delivered at the College of Physicians, Dr. Pye Smith selected as his subject "Certain Points in the Etiology of Disease." A wide field was reviewed by the lecturer. On several subjects he enunciated views somewhat at variance with those generally accepted. Thus he suggested that there was hardly adequate evidence for the common belief that bronchitis, pneumonia, or pleurisy followed the application of cold to the chest, and that enteritis or peritonitis was produced by cold on the abdomen, or nephritis by cold upon the loins. He expressed himself as sceptical with regard to the value of applying ice to the chest in hæmoptysis, and said he did not believe that such an application could check pneumonia. He sarcastically remarked that it would scarcely be held by the same physician that pneumonia was both caused and cured by cold applied to the chest. Speaking of the group of diseases which have their origin in physiological disturbance gradually becoming more frequent, ending in permanent structural disease, he remarked that we had always to bear in mind that "it takes two to make a quarrel." It took two to produce a disease—the blow and the reaction, the irritant and the patient. When a man complained that wholesome food disagreed with his stomach, we might retort that his stomach disagreed with his food. The lecturer said he had learned from Dr. Wilks an important point in the etiology of (most) diseases, viz., that acute diseases were often developed out of chronic. Probably the only maladies in which the onset was often sudden were those which were contagious and depended upon the invasion of a healthy organism by a countless swarm of foreign organisms attacking it from without. Even in the case of infective diseases, however, experimental pathology taught us that, while on the one hand an organism might be rendered refractory to the invasion of the virus, on the other hand it might be artificially prepared so that the subsequent invasion of a very attenuated virus would produce the most severe effects. The injection of the cultivation fluid of blue pus was an example of this. It was a matter of common experience that enteric fever often began with certain days, or even weeks, of diarrhœa, and might it not be that the local conditions of the intestines rendered them more obnoxious to the action of the contagion when it invaded? Genuine diphtheria was often preceded by non-specific and subacute angina.

Several other examples of predisposing conditions were mentioned by the lecturer. He protested against the use of the terms "diathesis," "dyscrasia," and "temperament," as unscientific and prejudicial to the advance of etiology. To say that a man who had had rheumatic fever had a disposition to its recurrence was only to say that rheumatism was a disease which usually occurred more than once in the same person. If a man's father had had phthisis or gout, he was, no doubt, predisposed to those diseases, but this was only saying that phthisis and gout were often hereditary. The disposition of tendency for these or other diseases was either carried out or it was not. If it was never carried out, its existence could not be proved and was of no practical importance; if it was carried out, the right way to put the fact was to say that the disease occurred, and the supposed predisposition to it was only a roundabout way of repeating the assertion.

Discussing the etiological influence of sex, Dr. Pye Smith observed that two important diseases had been asserted to be etiologically related to sex which were, he believed, really indifferent in that respect, viz., gastric ulcer and progressive pernicious anæmia. Of 93 cases of the former disease in Guy's Hospital which went out relieved or cured, 33 were men and 60 women; of 101 cases which died in hospital 59 were men and only 42 women. Excluding secondary and spurious cases, and keeping to Addison's original and masterly account of the disease, we should find that progressive pernicious anæmia was as common among men as women. This agreed with its true pathology, for it was quite distinct from chlorosis, and was naturally allied with the other essential and grave forms of bloodlessness which we knew as leukæmia and Hodgkin's disease, all of which were more common in the male than the female sex, and all of which were unbenefited by steel, but sometimes cured and often relieved by arsenic. Dr. Pye Smith expressed his disbelief as to the evil effects of overwork, and said that, excluding certain definite lesions, there was no evidence that harm was done, disease brought on, or life shortened by what was commonly known as work—whether mental, physical, or a combination of the two. He also protested against the assumption that this nineteenth century was fuller than any other of "worry" and anxiety.

Referring to the assertion that gout and phthisis were prophylactic against each other, the lecturer said he thought this was an error. He had observed their conjunction more than once; that they did not often coincide was to be expected from their incidence on different periods of life. A similar criticism would apply to the presumed opposition between tubercular and malignant disease. Carcinoma mostly affected elderly persons, while the majority of phthisical patients were young adults. Children with tubercle died before they could develop sarcoma, children with sarcoma died before they could develop tubercle, and adults affected with tubercle too often died before the age at which cancer was most frequent. In a patient of his own, aged fifty-eight, who had died from cancer of the stomach, both old and recent tubercles were found in the lungs.

At the last meeting of the Medical and Chirurgical Society a discussion on "Renal Dropsy" was opened by Dr. W. H. Dickinson in an elaborate paper. Dropsy fluids, he said, varied in composition more according to their position than their cause. Thus effusions in the serous cavities were always albuminous. If the albumin were the issue of filtration and pressure, these agencies were active in dropsy of every origin; if the salts present were evidence of osmosis this process was much the same in all. He did not think osmosis, alone was sufficient to account for dropsy—whether renal or otherwise. In ob-

structive suppression of urine where cardiac failure was obvious, and low arterial pressure inferred, though urine might be totally absent, dropsy might be equally so. In nephritis dropsy was early and well marked, and accompanied by increase of arterial pressure. With a further increase of arterial pressure, as the disease became chronic and cardio vascular changes were established, there was diminution of dropsy. Dr. Dickinson maintained that the cardio vascular changes of advancing renal disease were antagonistic to dropsy, and pointed out that when the heart finally gave way, mitral regurgitation, pulmonary apoplexy, and increase of dropsy resulted. The relation between dropsy and uræmia was not simple, for the most extreme uræmia sometimes existed while dropsy was totally absent. Anæmia had no necessary connection with dropsy, though often associated with it. The relation of hydræmia to dropsy was also complex. Water had been injected into the vessels of an animal without producing œdema. Slight dropsy resulted from the introduction of a large quantity of saline fluid into the veins of a diabetic patient, but there was reason to believe that the effect was due rather to increase of intravascular pressure than to simple hydræmia. With the increased arterial pressure of nephritis, though neither the anæmia nor the hydræmia was as extreme as in other conditions, dropsy presented itself, and Dr. Dickinson urged that the process was due to some change in the capillaries produced by the state of the blood, of which obstruction and transudation were consequences What the nature of the obstruction was must be left undeclared, but changes in the blood might affect its passage in many ways; the capillaries, though not muscular, had been demonstrated to be contractile. In chronic disease and the granular kidney the diminution of dropsy with the further increase of arterial tension required explanation. He suggested that the thickening and narrowing of the smaller arteries must cut off the blood from the capillaries, and presumably lessen pressure in them and exudation from them. The thickening of the ventricle must also increase its expansile power and suction action, and thus draw upon the pulmonary circulation and relieve the veins and interstices. Next came the beginning of the end in the yielding of the ventricle, regurgitation, increase of dropsy, and often pulmonary apoplexy. Putting aside lardaceous disease, the points of resemblance and of difference between renal and cardiac dropsy came into prominence. In both the accumulation was essentially what exuded from the capillaries and constituted the lymph. Under heart disease there was diminished absorption without any presumption of increased exudation, or not to any important extent; under kidney disease there was increased exudation without any necessary or constant diminution of absorption. Both were essentially connected with modifications of blood-pressure; in one from obvious obstruction to the venous return, in the other from some presumably obstructive condition of the capillaries, which was attended with enhanced exudation from them, and associated with increased pressure within the arterial system.

Dr. George Johnson said he believed that in Bright's disease the seat of obstruction was in the arterioles—not in the capillaries. The phenomena observed when asphyxia was artificially induced threw much light upon the function of the arterioles. In some papers in *The Lancet* for April 4 and 11, 1891, he had adduced evidence of the power of the arterioles to impede the movements of blood, and he knew of no evidence to prove that a like power resided in the capillaries. Even if it were admitted that the capillaries had some power of contraction, that of itself would not explain dropsy through their walls, for the flow through them would be lessened. He believed that renal dropsy was an active, vital, secreting process, exerted by the epithelium of the vessels themselves, and brought into action by the accumulation of noxious substances in the blood. Cardiac dropsy also should not be considered a mere process of mechanical filtration, and the same applied to the anasarca of granular kidney. The pulmonary apoplexies common in the last stages of renal disease were caused by hemorrhage into a bronchial tube.

Dr. Pye Smith said he agreed with Dr. Dickinson in regarding cardiac dropsy as entirely due to difference of pressure. In obstructive cardiac disease there was increased pressure in the small veins and capillaries, and difficult entry of lymph from the main duct into the great veins. In renal disease there were two separate dropsies, viz., 1, early and especially renal, and, 2, that seen in the later stages of granular kidney. This later dropsy was "hydraulic" in character, and occurred when dilatation supervened on cardiac hypertrophy. The early renal dropsy was not capable of a similar explanation, and Heidenhain's recent experiments demonstrated the possibility of its connection with the secreting power of the capillary endothelium, though this had not yet been proved. The evidence was entirely against its being hydraulic, and Dr. Pye Smith thought it was probably not a dropsy at all, but an inflammatory effusion, the results of an active inflammatory change in the connective tissues affected.

The discussion was adjourned till the next meeting of the Society.

LONDON, May 7, 1892.

Two noteworthy addresses have been delivered during the present week. The first of these was on "Sex in Education," by Sir James Crichton-Browne, who selected this as the subject of the annual oration at the Medical Society of London, which he was appointed to deliver. The orator maintained that the growing tendency around us to ignore intellectual distinctions between the sexes is unphysiological, and he adduced numerous interesting facts in support of this view. The radical explanation of sex, he said, was to be sought in what Michael Foster had called "the protoplasmic movement," that is to say, in the integrative and disintegrative changes of living matter. Anabolic and katabolic processes were manifold, varied in their relative ascendency in different individuals, and were influenced by environment, so that in tracing their operation through the animal kingdom, qualifications and explanations were from time to time needful, but subject to these it was everywhere obvious that the female was the outcome and expression of predominant anabolism, and the male of predominant katabolism. A study of the organic and functional, primary and secondary sexual characters, of the normal development of the tissues, and of their pathological modifications, made this evident, and a study of the emotional and intellectual characteristics of men and women led to the same conclusion. Differences in intellect implied cerebral differences, and first among cerebral differences between the sexes he would refer to mass and weight. Tables were produced showing that, allowing for differences of stature, there was still an excess of brain weight of more than an ounce in favor of the male. It could also be shown from the tables that organic diseases, and the atrophic changes they induced, lowered the normal difference between the male and female brain. That the smaller size of the female brain was a fundamental sexual distinction was made clear by the fact that the same difference in brain weight between men and women had been found in savage races. Not only was the male brain heavier than the female, but it had a wider range of variation in weight. There were also grounds for believing that there was a difference in the balance of parts in the male and female brains respectively. Broca had declared that the occipital lobes were more voluminous in the female, and Sir James Crichton-Browne said that his own observations confirmed this conclusion, and showed that, while the frontal lobes were equally developed in both sexes, the parietal lobes, which corresponded roughly with the motor area of Ferrier, were larger in the male than in

the female, and the occipital lobes, certainly sensory in their functions, were larger in the female than in the male. The third brain difference between the sexes was one of convolutional arrangement; mere ocular inspection would bring home to anyone who diligently used it the superior symmetry of the female brain, due to its comparative poverty in secondary gyri. He had also found the specific gravity of the gray matter generally lower in the female than in the male brain. Another momentous difference was in vascular supply. In an investigation carried on jointly with Dr. Sidney Martin, he had found that the diameter of the internal carotid and vertebral arteries, taken together, was slightly greater in the male than in the female. When the smaller size of the female brain was taken into account, it appeared that the female brain received a larger supply of blood in proportion to its mass than the male brain did, but it must be remembered that the blood was somewhat poorer in quality than that going to the male brain. The distribution of blood to the brain in the two sexes differed considerably. The internal carotid arteries, with their great branches, the anterior and middle cerebral arteries, supplying the supra-orbital convolutions and island of Reil, the gyrus fornicatus, the Rolandic area, the angular gyrus, and the first temporo-sphenoidal lobules were much larger in the male than in the female brain, but the vertebral arteries which supplied the occipital and temporo-sphenoidal lobules were larger in the female, and the basilar artery, which was practically a continuation of the vertebrals, was also larger in the female brain. The posterior communicating arteries were incapable of adjusting the balance between the direct currents of the carotid and vertebral arteries, and the result of the difference mentioned was that the anterior region of the brain was comparatively more copiously irrigated with blood in men, and the posterior in women. The region of the brain which in men was most richly flushed with blood was that which was concerned, we had reason to believe, in volition, cognition, and ideo-muscular processes; while the region which in women was most vascular was that which was mainly concerned in sensory functions, and we thus saw that there was a relation between the size of the cerebral arteries and what observation had taught us as to the intellectual and emotional differences of the sexes. Differences in brain structure and function had a special pathological significance at the period when sexual divergence was taking place most rapidly, and when education was being pushed forward with most vigor. The orator then proceeded to speak of the methods of education. He said he did not hesitate to affirm that overpressure was rampant in high schools for girls in this country, though there were those who believed that it was a medical myth. He protested against home evening lessons, and also against girls proceeding to school without having first had an adequate morning meal. He quoted in conclusion, as an argument against the equal education of the sexes, the remark that "what was decided among the prehistoric protozoa cannot be annulled by Act of Parliament," and he said that the essential difference between male and female could not be obliterated at a sweep of the pen by any Senatus Academicus.

The "Morton Lecture" on Cancer and Cancerous Diseases was delivered at the College of Surgeons on Thursday last, by Dr. Sims Woodhead. He said that what he had to say might be arranged under three heads: 1, The conditions within the tissues that may predispose to cancer; 2, what we know as to the nature of the irritants that are now assumed to play a specific etiological part in the production of cancer; 3, what is to be gathered in respect to the treatment of cancer from recent researches on the subject. Speaking on the first of these heads, Dr. Woodhead remarked that at one period of life the connective-tissue cells were most active, at another the epithelial cells. So far as concerned our tissues, we might come into the world middle-aged men and women. Only premature senescence could account for many of the anomalous conditions that made their appearance in the practice of the surgeon. We now accepted it as a well authenticated fact that by varying the conditions of nutrition, the facilties for excretion, and the nature and amount of stimulation or irritation, we could, to a certain extent, control or alter the character of the cells produced by a given set of tissues; we had an admirable example of this in cartilage and tendon. Dr. Woodhead said he believed at one time, and still thought it possible, though, perhaps, scarcely proved, that if cells were formed generation after generation under the action of an irritant, their specialization might be gradually interfered with, a less and less irritant being sufficient to keep up the new form of cell, until eventually the acquired form might become more or less permanent. This might serve well enough as a working hypothesis were we still unaware of the fact that in almost every other department of pathology some specific irritant, which was capable of exciting the changes set up in specific processes, was present. Why did we get the age distribution of tumors that was insisted on, now many years ago, by Virchow and Paget? Might it not be that similar stimulating or irritating agents were capable of giving rise at different periods of life to these different forms of tumor, and that the essential difference consisted in the different nutrient and developmental conditions of the tissues. He had long been of opinion that in classifying cancers and epitheliomas the age of the patient was not the only factor to be taken into account; the organ affected must also be considered. The lecturer then adverted to an investigation which he had made as to the condition of the epithelium of the tongue at different ages He discussed at some length the structural peculiarities of the investing epithelium taken from a definite point at different periods of life, and insisted upon the importance of these differences in connection with the etiology of cancerous growths.

It must be accepted for the present, said Dr. Woodhead, that malignant tumors were to be looked upon as overgrowths of certain tissues started into activity by some unknown cause. What could be the exciting cause? It was necessary that there should be a continuous irritation, and one capable of multiplication. Hitherto few irritants had been found capable of keeping up continuous irritation for any length of time, and such as had been met with were confined almost entirely to those vegetable parasites which specially affected the connective tissues. Up to the present, comparatively few parasitic vegetable organisms had been found that had the faculty of living in any of the active epithelial cells of an animal; these cells were usually described as offering a most determined resistance to the entrance of most vegetable micro-organisms. Numerous observers had thought they had succeeded in demonstrating the presence of specific vegetable micro-organisms in epithelial growths; but these, in most cases, had been proved to be merely common saprophytic organisms. Dr. Woodhead then referred to the controversy respecting the organism known under the name of "coccidium," which occurred in the liver of the rabbit, and which was known to set up a peculiar irritated condition of the bile-ducts, which ended in the formation of psorosperm nodules. One could not but be struck by the very marked similarity between psorosperm nodules and cancerous growths. The so-called fuchsin bodies found by Russell were then referred to. The lecturer concluded, however, that we were very far from having proof that these bodies were the actual cause of cancer. Why should they make themselves felt only under certain conditions, and at certain periods of life? He remarked that a coccidial theory of cancer, if proved, would render it necessary that we should throw aside the doctrine that cancerous epithelium could be developed from anything but epithelial cells.

In regard to treatment, the lecturer favored free removal of the tissues. He said he firmly believed that

those surgeons were in the right who maintained that the only safe rule to be observed in removing cancer of the breast was to remove, not only the main mass of the gland, but all outlying portions of glandular tissue, both laterally and in depth, so that if, on cutting away the margins of the tumor, treating with nitric acid in methylated spirit (five per cent.), and then with water, any opaque columns or fragments were still to be seen, he should consider that the removal had not been free enough.

Considerable dissatisfaction has been expressed at the constitution of the Royal Commission on the proposed Gresham University.

Influenza has not yet disappeared entirely, and eight deaths from it within the metropolitan area were registered last week.

SENN'S HYDROGEN TEST.

To the Editor of the Medical Record.

Sir: Relative to a point of objection against the Senn hydrogen test for intestinal perforation, that of a possible explosion within the belly when the torch is applied to the tube, urged frequently by Dawbarn, and recently in a paper by him before the New York Academy of Medicine (February 8th), I desire to say a few words.

Being some years ago a member of a class before whom Dr. Dawbarn demonstrated the Senn test on the cadaver, I heard from him this objection. As the gas began escaping from the tube, I inverted over it a drinking-glass. Hydrogen being lighter than air, at once displaced the air and filled the glass; removing this, still inverted, a short distance from the body, a match was applied and the gas ignited, a perfectly safe method of demonstrating the escape of hydrogen from the tube.

The object-lesson seems to have been lost upon my good friend Dr. Dawbarn, who still urges the danger of explosion within the cavity.

A. B. Holder, M.D.

69 Madison Street, Memphis, Tenn.

PLAGIARISM EXTRAORDINARY.

To the Editor of the Medical Record.

Sir: I desire to call your attention to an article in the *Journal of the American Medical Association* for May 21, 1892, by Dr. Hal Foster, of Kansas City, Mo., on "How a General Practitioner may Treat Atrophic Rhinitis," said to have been read before the Kansas State Medical Society, at Fort Scott, Kan., on May 4, 1891 (*sic*). Such an article, under the title "The Etiology and Treatment of Atrophic Rhinitis," by Jonathan Wright, M.D., of Brooklyn, appeared in the Medical Record for August 15, 1891, having been read by the author before the New York Kings County Medical Association on May 12, 1891. That article was given to the typewriter prior to May 2, 1891, and returned to the author's house on May 7, 1891. The author was absent in Baltimore and Washington from May 2 to May 9, 1891, and found the article awaiting him on his return. Some time in the fall of 1891 a person signing himself Dr. Hal Foster, of Kansas City, wrote to Dr. Jonathan Wright asking him for reprints of some of his articles. They were sent to Dr. Foster. (The writer states the last two sentences from memory alone, and may be mistaken. There is documentary evidence to support what preceded.)

The paper in the *Journal of the American Medical Association* of May 21, 1892, is practically a verbatim copy of the paper in the Record for August 15, 1891. Consequently this is a matter which vitally affects the personal and professional reputation of at least one of your contributors, because the *Journal* paper purports to have been read May 4, 1891, while the Record paper was read May 12, 1891.

According to the announcement in the Record (advt., p. 15), the Kansas State Medical Society met at Fort Scott, Kan., on May 3, 1892.

We are accustomed to plagiarism in these days, but wholesale theft of a paper word for word (with exception of a few lines) is surely somewhat of a novelty.

Who was the offending party in this case, I leave to your impartial investigation, and remain,

Very truly yours,

Jonathan Wright, M.D.

73 Remsen Street, Brooklyn, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 28, 1892.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	8
Scarlet fever	183	33
Cerebro-spinal meningitis	1	4
Measles	749	36
Diphtheria	95	35
Small-pox	13	3
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

The Danger of Celluloid Buttons.—Professor C. Vernon Boys, of England, reports the case of a lady, standing near a bright fire, who suddenly found herself enveloped in smoke. A gentleman who came to her rescue succeeded in crushing the ignited portion of her dress, not, however, without severely burning his hand. On investigation the fire was found to have originated from a spot where a large fancy button had been, but had disappeared. Similar buttons were subsequently examined, and were found to be highly inflammable, being made of celluloid.

Suppression of the Thesis in France.—The question of doing away with the doctorate thesis in the French medical schools is being warmly discussed by the journals. The grounds upon which the change is advocated are that the printing of a long thesis is expensive, and is often a serious tax on the limited resources of the student; that it affords no evidence of the student's knowledge, and finally, that it is usually a very poor production in a scientific, if not in a literary, sense.

The Seutin Prize.—The Seutin prize of 5,000 francs, for 1890–91, offered by the Brussels Royal Society of Medical and Natural Sciences for the best essay on "The Etiology, Diagnosis, and Treatment of Inflammations of the Fallopian Tube," has been awarded to Dr. Theodore Landau, of Berlin.

Some of the Subjects of the "Bichloride-of-Gold" Treatment.—Colonel Mines, a few weeks after his "cure," died of alcoholism. James G. Fair died of heart disease directly attributed to the treatment. Walter R. Earle died a raving maniac a week after his dismissal. Henry Anstey died during treatment. Luther Benson went mad. Charles Vaughn went insane. Ex-Congressman Hopkins went mad, and died soon after treatment. —Dr. Charles H. Merz, in the *Medical Age*.

BOOKS RECEIVED.

Tenth Annual Report of the State Board of Health of the State of New Hampshire, for the year ending October 31, 1891. 8vo, 271 pages, illustrated.

Transactions of the New York State Medical Association for the Year 1891. Vol. viii. Edited by E. D. Ferguson, M.D. 8vo, 672 pages.

Medical Record

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Original Articles.

PRACTICAL POINTS IN THE TREATMENT OF CLUB-FOOT.[1]

BY A. B. JUDSON, M.D.,
NEW YORK.

THE treatment of congenital club-foot is a subject doubtless as old as the hills, and yet ever new, since the correct method of treatment is apparently as far as ever from being well established and unanimously accepted. I cannot hope to do, this evening, what so many experimenters in so many years have not done, but will present some thoughts which may, on the one hand, assist the practitioner burdened with such a case, and, on the other hand, relieve some beginner from the false notion that a rapid and brilliant success is within his reach in cases of this kind.

I will limit myself to emphasizing two, and perhaps three, points of practical interest. It is well to bear in

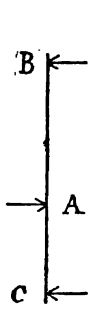

FIG. 1.

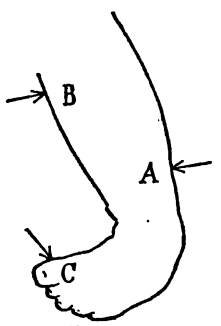

FIG. 2.

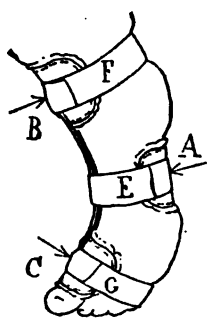

FIG. 3.

mind, to begin with, that there is a vast difference in such a case between a child walking and a child recumbent. When the baby is in arms the case is still uncomplicated by the weight of the body thrown on the deformed foot. And this is the first practical point in the treatment of this affection which I would emphasize, and would repeat as follows: While the child is in arms, and the case is yet free from the complications and difficulties caused by the falling of the weight of the body on the deformed foot, the case should receive the most assiduous and persistent attention. These twelve months, more or less, are the most important year in the history of the case, because in this interval the foot is to be so changed that when the child becomes active on his feet the application of a slight walking-brace, exerting only a moderate degree of force, will convert the weight of the body from a deforming to a correcting force. During these months of recumbency, with the weight of the body out of the way, with all the tissues comparatively soft and formative, and the foot more than doubling in size with the growth of the child, there is every reason to expect to succeed in what we undertake, provided time enough be given to the case, and faithful attention to the details.

The agent used to effect this partial reduction before the child learns to stand is a simple retentive splint, which acts as a lever, making pressure at A, in Figs. 2 and 3, on the outer side of the leg and foot, on the convexity of the deformity, and counter-pressure at two points, one on the inner side of the leg, below the knee, at B, and the other on the inner border of the foot at C. The fact that this simple instrument is a lever is the second practical point which I would emphasize, because if we know that we are making use of a lever, with its well-defined three points of pressure, or rather one point of pressure, A, and two of counter-pressure, B and C, we can get more out of the apparatus than if we view it in a more indefinite way, as an application for improving the shape of the foot and leg. I use a little brace made of sheet brass, doing the work with a few simple tools. One advantage of doing the work yourself is that you know whom to blame if the work is not properly done. Two curved disks, B and C, in Figs. 4, 5, and 6, of thin brass, are riveted to the ends of a narrower and thicker piece, D, to form the part of the brace which makes the two points of counter-pressure. A third disk, or shield, A, in Figs. 4, 5, and 6, is applied to the convexity of the deformity with a strap of adhesive plaster, E, in Fig. 3, surrounding the leg, and including the shield and the piece which connects the two disks. All the disks are to be lined with pieces of blanketing easily renewed. These braces are so cheap and easily knocked together that it is nothing to apply new and larger ones, using heavier materials as the child grows.

The brace is applied with three narrow straps of adhesive plaster. The upper and lower straps, F and G, in Fig. 3, are simply to keep the apparatus in place, while, by drawing the middle strap, E, tightly over the shield, and straightening the brace from time to time, the deformity is gradually and slowly reduced. At each reapplication the brace is to be made a little straighter than the foot and leg at that stage. This may readily be done by the hands, and then the middle strap is to be tightened over the shield till the shape of the limb agrees with that of the brace. After a few days the brace is to be made still more straight, and again reapplied and made tight till another point of improvement is gained.

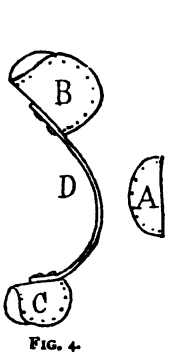

FIG. 4.

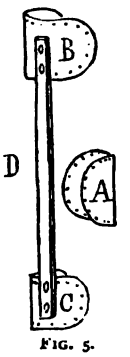

FIG. 5.

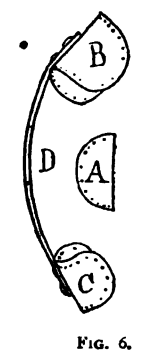

FIG. 6.

The brace is applied very crooked at the beginning of treatment, as in Fig. 4, and is straightened from time to time, and a larger brace applied as the deformity is reduced and the patient grows. It may be removed every week or so, and an interval of a few days allowed for freedom from the brace, when the mother is directed to manipulate the foot, using as much force as she will in the direction of symmetry.

By this simple and prosy treatment, carried out systematically and without haste, or violence, or pain, the foot, unless it is a frightful exception, may with certainty be changed from varus to valgus. Fig. 4 shows approximately the shape of the brace at the beginning of treatment, Fig. 5 when the varus is reduced, and Fig.

[1] Read before the New York County Medical Association, May 16, 1892.

6 when valgus has taken the place of varus. The foot in this latter stage may not hold itself valgus when left to itself, but with almost no force, and with one finger, it may be pushed into valgus, and in this condition it must be when the child begins to walk, and then an entirely new phase of treatment begins.

The brace useful to this point is now useless, because it cannot hold the foot against the overpowering weight of the child when he stands, and yet, with no brace at all, every step made with the outer border of the foot on the floor is a force perpetuating and increasing the deformity. Here it has been noticed that there is an important boundary line between deformity and symmetry. If the foot is held in some way on the right side of this line, each step forces it in the direction of valgus, and the increasing weight of the child is a powerful force, acting in the right direction so long as the foot is held, though never so little, looking toward symmetry. It may be said that the child stamps himself straight. If, on the other hand, the foot is held, or allowed to go, on the wrong side of this line, though never so little, each footstep is a blow driving the foot more and more into the varus position. And this is the third point which I would especially emphasize. From the time the child begins to stand, the weight of the body should be made to act against, instead of in favor of, the deformity. This may be done by mechanically holding the foot in a proper position to receive the weight pressing down from above. If this is not done, standing and walking will increase the deformity.

The brace needed from this time on must be made of steel by an instrument-maker. Like the one which is used in the beginning of treatment, one of its functions is to act as a lever against the deformity, but the leverage now used is not so much to overcome the deformity directly, which cannot be undertaken with success against the weight of the body. The force of the lever is now applied to hold the foot on the right side of the boundary line above mentioned, so that the weight of the body straightens the foot in a direct and forcible manner.

The brace used at this stage consists of the ordinary foot-piece and upright, with a transverse band at the upper part. The band is placed behind in order to give attachment to a piece of webbing which crosses the front of the leg. The upright is on the inner side of the leg. The upright is to be bent from time to time as the foot improves. This and other parts of the brace should be made of mild steel, to facilitate alterations in shape and the shifting of buckles and straps as required, all of which may be done by the use of a few simple tools. The foot-piece, riveted to the upright, has the usual riser on the inner side of the foot, to which is riveted an ear made of sheet brass to keep the great toe down, and a spur projecting upward from the back part of the outer border of the tread to give attachment to one end of a piece of webbing which makes the heel-cup, the other end of the webbing being riveted to the lower part of the upright. The foot-piece is lined with adhesive plaster to prevent rust, and with a piece of truss leather fastened with two rivets. In practice the details demand as much attention as the principles of treatment. The brace is worn over the stocking and under the shoe, while the moderate pressure necessary is made by buckles and pieces of webbing.

Besides keeping the foot in proper position to receive the weight of the body, I may mention two or three other advantages to be derived from the use of this brace. For instance, a narrow strap of adhesive plaster wound around the foot and buckled to the riser of the foot-piece rotates the sole of the foot outward and combats the varus. Again, as the deformity is reduced and the upright is bent, the tread of the foot-piece becomes an inclined plane, higher on the outer border and lower on the inner border of the foot, the effect of which is to combat the varus by rotating the sole of the foot outward. Furthermore, the addition of a strap making pressure backward at the upper part of the leg transfers to this point some of the pressure which would otherwise be received, when the patient walks, on the anterior part of the sole of the foot, thus facilitating the correction of the varus, and making it possible at a later stage of treatment to stretch the tendo Achillis by gradually reducing the obtuse angle which is made at first between the upright and the foot-piece.

As the child outgrows this walking brace a larger one is to be made, and when three or four years old the foot will, without the help of the brace, strike the ground so fairly that, for two or three years, all treatment may be suspended. The patient is to be observed from time to time, however, and as the foot grows in its original inclination to varus, it will, after the lapse of two or three years more, have to be kept in proper position under the rapidly increasing weight of the body by a brace similar to the last for another period of two or three years. When the foot is full grown it will be normal and shapely in appearance when dressed, and practically perfect in its ability to perform all the functions of a foot congenitally normal. While the foot is under treatment in this way the improvement is continuous, and the natural and obvious result of the means used, considerations which bespeak and retain the confidence of the parents of a child thus affected, a practical point, in closing, not to be overlooked in cases which occupy so much time in treatment.

ON ACHYLIA GASTRICA.*

By MAX EINHORN, M.D.,

INSTRUCTOR IN CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND PHYSICIAN TO THE GERMAN DISPENSARY, NEW YORK.

ACHYLIA † gastrica (lack of gastric juice) forms the main symptom of the affection heretofore described under the heading of "Atrophy of the Stomach."

Whereas in most diseases we first mapped out the clinical picture and found the pathologio anatomical condition much later, in the disease in question—"Atrophy of the Stomach"—the course of things was quite the reverse. First we found, at autopsies, stomachs with atrophied glands (Fenwick,[1] Lewy,[2] Ewald,[3] Kinnicutt[4]); later the clinical appearances corresponding to these conditions during life were described and really found.

One of the most elaborate papers on this subject is that of George Meyer,[5] entitled "Zur Kenntniss der sogenannten Magenatrophie" (To the knowledge of the so-called "Atrophy of the Stomach"). I may be allowed to desist from going into a description of the literature of this subject, as this can be found in all its details in the aforementioned paper of Meyer.

The clinical appearance of the cases of atrophy of the stomach, described first by S. Fenwick, later on by Osler,[6] Nothnagel,[7] and others, corresponds exactly with that of pernicious anæmia.

If, however, the above-mentioned authors conclude from the results of the autopsies (atrophy of the mucous membrane of the stomach) that the disease of the stomach is the cause of the whole sickness, *i. e.*, of the anæmia—this, although it might be possible, is not as yet proven. For on one hand the proof is wanting that atrophy of the stomach can be found in all cases of pernicious anæmia, on the other hand not all cases of atrophy of the stomach show the symptoms of pernicious anæmia.

The atrophy of the stomach might perhaps be caused in these cases by the poor nutritive condition in consequence of the pernicious anæmia.

Ewald and Lewy later on gave exact microscopic pictures of the atrophied stomach. Ewald often found this condition in cancer of the stomach, and in people dying from "cachexia senilis."

In all these conditions not only the mucous membrane, but also the other parts of the stomach, were affected. In

* Read before the Society of German Physicians of New York.
† Derived from ὁ χυλός = the juice.

reference to this point, Meyer says: "In the affection in question the muscularis of the stomach is likewise affected to such a degree that the motion of the stomach is also disturbed. It is self-evident that in such a high degree of alteration in the mucous membrane of the stomach the resorbing faculty must cease. Thus the three functions of the stomach cease in consequence of the lack of parenchyma. This latter is signified in other organs as "phthisis;" therefore I do not see any reason why not to make use of the same name in these conditions of the stomach, as long as they are of a progressing nature. The condition, however, which the phthisis creates, namely, the total disappearance of the secreting parenchyma with its consequences, one could signify, according to Ewald, as "anadenia of the stomach."

As regards the symptomatology, Meyer says: "Should I summarize in a concise form the symptoms which in many instances make us diagnosticate phthisis ventriculi, there would be mainly the appearances of the progressive pernicious anæmia, with the only difference that the signs of the digestive tract take the foreground. . . . The duration of the affection seems to be from several months to about two to three years. In latter instances, digestion in the small intestines takes the place of stomach digestion; the duration, however, of this vicarious function of the small intestine is limited, and does not seem sufficient to maintain the nutrition of these patients for any length of time."

Thus, in most cases of atrophy of the stomach mentioned in literature the sickness in question is one in which all the functions of the stomach are disturbed, and which gradually leads to death; the name of phthisis ventriculi has, therefore, been very suitably chosen for the same. There have been described, however, a few cases of atrophy of the stomach in which the clinical symptoms or, more correctly, the chemical analysis of the stomach-contents led to the above diagnosis, which by no means seemed to present such a severe irreparable disease. In these cases no autopsies could be made, and atrophy of the stomach, although it must here be conjectured, is not as yet proven to exist. Cases belonging to this latter group have been described by Grundzach,[8] Ewald,[9] Wolff,[10] Jaworski,[11] Boas,[12] Rosenheim,[13] Litten,[14] and myself.[15] Grundzach especially urged the occurrence of this latter category. In his five cases the following conditions were noticed. "Stomach-contents: 1. When fasting always empty. 2. The contents always showed during the digestion neutral or very weak acid reaction. 3. There were found large amounts of mucus. Notwithstanding the lack of hydrochloric acid, there were no processes of fermentation going on."

Grundzach remarks that in patients of this kind prominent subjective symptoms may often be absent, notwithstanding the chemical condition of the stomach is disturbed to such a high degree.

"Whether such a condition can be of long duration, whether the muscular coat, put into the inflammatory state, does not after a while, under the influence of the disturbing factors, undergo changes which make it entirely incapable for the future of complying with its mechanical function, is a question that cannot be decisively answered."

As I had the opportunity to observe four pronounced cases of this so-called "atrophy of the stomach"—among which there is also the case reported in 1888, which I had under control for over four years—it appeared to me of value to publish these cases in order to discuss several points gained by them.

In reference to the name, it seems to me that in these cases, where until to date the diagnosis could be made only clinically, and there was as yet no opportunity for autopsies, the expression "atrophy of the stomach," "atrophy of the mucous membrane of the stomach," "phthisis ventriculi," or "anadenia ventriculi" is not fully justifiable. For in this name lies only the expression of the pathologic-anatomical condition of the stomach, which is not up to date known with surety. We feel obliged only by theoretical reasoning to accept this supposition.

As we have to deal in these cases with an entire lack of gastric juice, I believe that "achylia gastrica" might be a suitable expression for this disease. The name tells exactly what we find clinically in these patients. I may be allowed here to describe my cases in succession:

Case I.—Louis T—— (described in the New York *Medical Press*, September, 1888). This case deals with a man, twenty one years of age, who suffered since the year 1886 from obstinate constipation, vomiting, and headache.

The status, taken on November 26, 1887, was: Tongue heavily coated: the abdomen somewhat bloated. The internal organs do not seem to betray anything abnormal; the patellar reflex is present; no disturbances in the organs of sense; color of the lips and cheeks pale and anæmic, although the patient is by no means thin. His main complaint consisted at that time in vomiting after partaking of any kind of food, especially after meals. The examinations of the stomach contents undertaken in 1887, during three months always showed the absence of hydrochloric acid and of the pepsin and rennet-ferments. The diagnosis of atrophy of the mucous membrane of the stomach in all probability was made at that time. The treatment then undertaken had the effect of making the patient feel better and of causing the vomiting to appear less often than theretofore. (For details of the history of this patient see in the above-mentioned article.)

The condition of the patient has not changed much since then. The patient has gained, however, somewhat in weight; his face is now of a good hue; the color of the mucous membranes red. As a whole, patient could eat more than during the first two years of his sickness. The constipation still persisted in the old manner, and the patient had to make use all the time of clysmata and sometimes of purgatives. Headaches and a sensation of fulness and uneasiness in the gastric region are frequent complaints of the patient. About eight months ago a burning sensation appeared in the lower extremities; this symptom could not be stopped either by medicaments or by electrization; after a duration of half a year this burning sensation disappeared of itself. During the last two years the vomiting appeared only very seldom.

During the whole four years we have examined the stomach contents of the patient about once a month.

We always found the following conditions: When fasting, the stomach was usually empty, and only exceptionally contained a few cubic centimetres of a turbid gray greenish fluid of alkaline reaction and without the admixture of mucus.

One hour after Ewald's test-breakfast: The stomach contents can only with some difficulties be made to appear through the tube, because this latter becomes obstructed with the larger pieces of the roll. The stomach contents present, as a whole, the following condition: The pieces of roll appear almost entirely unchanged; they look as if they had been lying in water for some time; there is no mucus present; reaction very weakly acid (usually the acidity about 2 to 4); hydrochloric acid not present; lactic acid present in traces; propeptone as well as peptone not present; the rennet and pepsin ferments absent; stomach contents not decomposed. As a rule the above described condition was also found several hours after a test-dinner.

Case II.—August 15, 1890. Isaac S——, aged thirty-five, had suffered for ten years from vomiting, which appears sometimes immediately after a meal; usually, however, about two to three hours after. Sometimes the vomiting stopped for a week, in order to reappear regularly with renewed force. Appetite never present. Headaches, most severe in the morning. After meals there appeared constantly in the patient a feeling as if he would have to vomit, which feeling, however, subsided after a short time. Bowels regular. Bad taste in the mouth. Pa-

tient always felt weak, tired, and sleepy. Status præsens: Patient tall and looks pretty thin; cheeks of a pale hue; mucous membranes anæmic; chest organs intact; stomach not dilated.

August 16th.—One hour after the test-breakfast: HCl = 0; acidity = 6; rennet = 0; pepsin = 0; propeptone = 0; peptone = 0; achro-odextrin +; erythrodextrin = 0. The food particles quite large.

August 18th.—When fasting: 20 c.c. of a greenish mucous fluid; no admixture of food; reaction alkaline. Diagnosis: Achylia gastrica. Treatment: Lavage of the stomach; HCl; koumyss; powdered meat; gymnastics; cold ablutions. The patient feels much better; had no vomiting; appetite good; no headache.

August 20th.—When fasting: Stomach empty; lavage. Four eggs daily allowed in addition to the previous nourishment.

August 24th.—One hour after the test-breakfast: HCl = 0; acidity = 4; rennet = 0; peptone = 0; propeptone = 0; achro-odextrin + much; erythrodextrin = hardly traces; pepsin = 0.5 c.c. of the filtrate + 2 drops of muriatic acid + a disk of egg albumin, after six hours not digested; on the following day the disk is transparent, but still present. The filtrate contains many minute particles (probably from the egg albumin); the fluid even now does not contain any peptone nor propeptone. Pepsin therefore absent.

August 28th.—The so-called "Durchspritzgeräusch" (first swallowing sound) present. Patient is faradized for ten minutes from the inside of the stomach.

In October, 1891, patient asserts that he has gained four pounds during the last year. He has lived during the whole time according to the prescribed rules, felt well, and never vomited.

The examination of the stomach contents on November 10th, one hour after the test-breakfast, shows: Reaction, weakly acid; HCl = 0; acidity = 4; propeptone, peptone, not present; rennet and pepsin absent; achro-odextrin + much; erythrodextrin absent; no admixture of mucus; the food-particles large; the pieces of roll look as if they were softened in water.

Case III.—October 1, 1891. Mrs. Caroline P——, aged fifty, had suffered for twenty years from stomach-complaints: first had stomach cramps, afterward vomiting also; usually the vomiting appeared periodically every three years; since a year, however, she used to vomit almost every day and had pains in the epigastric region. Appetite not good. Bowels somewhat constipated.

Status præsens: Well nourished, stately-looking woman; color of the lips and cheeks healthy; tongue not coated; chest organs intact; no splashing sound can be produced in the stomach. The epigastric region sensitive to pressure.

October 5th.—One hour after test-breakfast: The stomach contents can be obtained only with some difficulty, as the openings of the tube often become obstructed with pieces of roll. Reaction weakly acid; HCl = 0; acidity = 4; lactic acid can hardly be discovered; propeptone and peptone not present; rennet and pepsin absent; no mucus; achro-odextrin + much; erythrodextrin = 0.

Taking the long existence of the ailment into consideration, and the characteristic result of the stomach contents this case has been diagnosticated with all probability as one of "achylia gastrica," which diagnosis has been strengthened by the behavior of the patient.

The examinations of the stomach contents made thereafter for many months (about once or twice each month) always showed the same result; absence of hydrochloric acid; very low acidity; no peptone, no propeptone; neither rennet nor pepsin; no admixture of mucus; the pieces of roll absolutely unchanged.

The treatment consisted first in the use of HCl, condurango, and chloral hydrate until October 29th, but the vomiting had not disappeared. Since October 30th, direct faradization of the stomach once a week; since that time, no vomiting. Appetite, although not good yet, is better, however, than before.

As regards diet, the patient has been instructed to triturate the food as minutely as possible; she took koumyss, powdered meat, grated crackers and eggs beaten in bouillon.

During the last winter the pains of which the patient used to complain almost entirely disappeared, and she could eat more. The patient did neither gain nor lose in weight; the general condition, however, had improved to such a degree that the electrization could be dispensed with.

On April 10, 1892, the result of an examination of the stomach contents one hour after the test-breakfast was exactly the same as described above.

Case IV. *Achylia Gastrica, Combined with Rumination.*—August R——, fifty-two years of age, carpenter, was always well and had not consulted a physician for the last twenty years. Suffered in his boyhood from frequent headaches, cramps in the abdomen and diarrhœa until his twentieth year. The patient attributes the griping pains in his abdomen at that time to the circumstance of growing up under poor and miserable conditions; as a rule he had very little to eat; from time to time, however, he used to work in the country with the peasants, where he had plenty of good things to eat, and here the patient used to overload his stomach.

As a boy the patient partook of hardly any meat from his fifth to his fourteenth year of age; his main nourishment consisted of potatoes, flour, soup, bread, water—soup only occasionally; of meat he partook only when occasionally visiting his relatives. The patient did not like buttermilk nor coffee. When calling on his relatives, however, he used to drink a little coffee in order to enjoy the sugar which was given with it.

As long as patient can recollect he often used to bring up the food from the stomach into the mouth about half an hour after the meal, chew it and swallow it again. When eating cherries he used to swallow the pits also, and only afterward when bringing them up from the stomach into the mouth, he used to spit them out.

This bringing up of the food the patient used to do mainly when feeling well. In chewing the second time he enjoyed it as much as when first chewing the food. Often the food comes up in morsels, although the patient has not at all been thinking of it. The patient hardly ever vomited, except when he got drunk—which happened twice during his life—and when crossing the ocean on a trip to Germany, he vomited, but never at any other time. Patient eats hastily, and the hard substances he chews well afterward when they come up from the stomach.

The patient can ruminate any time he chooses, except when the stomach contains but very little or is almost empty. In ruminating the patient takes care to conceal this act from others; he speaks to no one about it, and even his wife is not aware of his ruminating.

Status præsens: Strongly built man of short stature, is well fed, with good panniculus adiposus; chest organs intact; stomach dilated; the lower margin extending to one finger-width above the navel. Patient has no complaints whatever, enjoys a good appetite, his bowels are regular, and he feels well in every respect. The only thing which strikes him as being abnormal, and wherefore he has been treated for some time in Germany and afterward came to see me, is his coated tongue.

October 27th.—One hour after the test-breakfast: Patient spontaneously brings up a small quantity of the contents of his stomach (about 20 c.c.). With the tube, likewise, only a small quantity can be obtained. The roll particles are not minutely minced and almost unchanged. HCl = 0; acidity = 2; rennet = 0; propeptone = 0; peptone = 0; erythrodextrin = 0.

Meltzer's swallowing sounds: Patient drinks water; at the first swallow one hears simultaneously a sound at the

processus xyphoides ("Durchspritzgeräusch"); at the second swallow (which followed about one to two minutes later) one hears a sound about eight seconds afterward ("Durchpressgeräusch"); at the third swallow one immediately hears the "Durchspritzgeräusch," and ten seconds later the "Durchpressgeräusch."

I had the opportunity of examining the patient for three months, and always found the stomach contents in the above-described condition, with the same result of chemical analysis.

This last case is in many ways very interesting. At first we can learn, that the "achylia gastrica" may be found in a person not aware of any troubles from the digestive apparatus, and enjoying perfect health.

The history of the patient seems to indicate that the abnormal condition of the stomach developed in his early youth; for only at that time the patient had complaints, whereas later on he had no disease whatever. This would clearly show that the achylia gastrica may exist forty years without endangering the vital functions of the organism.

As to the etiology, it is of importance that the patient in his early boyhood did not partake of any meat nor of any other richly albuminous food. As the infantile stomach secretes a juice which does not contain much hydrochloric acid (see my article [16] in the *New York Medical Journal*. "The Time Required for the Stomach Digestion of Different Foods in Infancy"), it might be imaginable that in our patient this faculty of the stomach of secreting an acid juice did not further develop. For the acid juice in the stomach of this patient, who lived on a scanty diet consisting mainly of vegetables, where there were almost exclusively amylaceous substances, would be not only of no use, but rather of some detriment to digestion. (As is well known, the conversion of starch into sugar is interfered with in the presence of a considerable amount of acid.) In this way the stomach might have secreted during the first years of boyhood only a scanty amount of hydrochloric acid, and may later on, under the influence of other disturbing factors (frequent acute gastric catarrhs, etc.), have lost entirely its secreting faculty.

The rumination could be explained from the etiological standpoint by the early appearance of the gastric achylia or lack of juice. For in the achylia the vegetable food particles remain in the stomach unchanged, as the enclosing plant-albumin does not become dissolved (this fact was first shown by Reichmann [17]). The starchy grains, the coverings of which have not been opened mechanically in the mouth, escape in this way the conversion into sugar. Thus the trituration of the food into very fine small particles forms the best means of ameliorating this disadvantage.

The rumination in this case may perhaps have been developed for teleological reasons. For by the rumination the patient is enabled to divide the food into very fine particles in chewing it a second time.

In shortly again perusing the cases of achylia gastrica mentioned, we find—if we exclude the fourth last described case in which there were no troubles whatever—that these patients complained of frequent vomiting, loss of appetite, and of a sensation of fulness or pains in the epigastric and gastric region.

The appearance of the patients was good, *i.e.*, they were well nourished and did not look in any way thin or sick, with the exception of Case II., who was somewhat emaciated, but did not lose in bodily weight since the treatment.

In the fasting condition the stomach contained in Cases I. and II., during the first time of treatment, a small amount of turbid fluid with an alkaline reaction, in which were found decayed epithelial cells; after a short time of treatment the stomach was empty. In the other two cases the stomach was empty when fasting.

In all the four cases the stomach-contents showed, one to one and a half hour after Ewald's test-breakfast, the following peculiarities: 1. The pieces of roll not minutely minced and unchanged. 2. The reaction very weakly acid or neutral, usually the acidity was 4 (*i.e.*, 100 c.c. of the filtrate of the stomach contents are saturated by 4 c.c. of a $\frac{1}{10}$ standard solution of sodium hydrate). 3. Hydrochloric acid not present. 4. Lactic acid present, but could be discovered only after a thorough shaking with ether. 5. Neither propeptone nor peptone present. 6. The tests for the pepsin and rennet* ferments gave negative results. 7. The stomach contents did not smell badly, and did not otherwise give the appearance of decomposition.

The clinical points above mentioned in connection with the result of the examination of the stomach make the diagnosis of "achylia gastrica" quite easy.

In treatment we must lay most stress upon a minute mechanical trituration of the food before partaking of same, for the stomach itself, in want of its faculty of dissolving albumin, as mentioned above, is not able to open the coverings enclosing the starchy granules.

The tonic remedies of the stomach, as, for instance, lavage and direct faradization, appear to be very useful. HCl was of advantage only in one of the cases; in the others it seemed to have no influence whatever. Pancreatin, which has been recommended by Reichmann,[17] Ewald,[18] and Boas,[19] I have given only in one of the cases without decided effect. As regards the course of the disease after the above-described treatment, it seems to me that the regulation of the diet proves to be very useful and of great advantage. In the three cases in which there were symptoms, it succeeded in stopping the vomiting and in decreasing the other complaints of the patients.

In all cases of absence of gastric juice the act of digestion is executed principally by the small intestines. I do not say exclusively, because the conversion of starch into sugar, as long as the starch granules are free, begins in the mouth and proceeds, and is nearly completed, especially in these cases, in the stomach. All albumin must, however, wait for its digestion until its arrival in the small intestine. If the food particles are very minute, the vicarious action of the small intestine comes into play much easier, and the subsistence of the organism can in this way proceed without injury. If the stomach forwards its contents in due time into the small intestine, and if the latter is enabled to do the increased work perfectly, then there exists a state of compensation, and the organism is again in its equilibrium. In this case the patients can live many years even without any complaints.

Should we be entitled to draw some conclusions from Case IV., it would seem as if the compensation can be achieved more easily and perfectly during early youth. For, whereas all three other cases must live according to the prescribed diet, in order to maintain the balance, this is not the case with Patient IV. He eats anything, and it agrees with him. The rumination alone would hardly have effected this remarkable difference; but the rumination, combined with the early adaptation of the small intestine to replace the functions of the stomach, has enabled the patient to digest perfectly.

According to this explanation, those affected with achylia gastrica, after established compensation, can exist for an unlimited length of time (Case IV. is probably in this state since his early youth, therefore about forty years. Patient Louis T—— did not get worse during the four years after treatment was undertaken). I would like to lay special stress upon this point, as there is nothing certain about it in the literature.

As the pathologic-anatomical base we might with some certainty suppose in all cases of gastric achylia a complete atrophy of the mucous membrane of the stomach; however, this has not as yet been actually proven.

The etiology of achylia gastrica is likewise not yet positively known. It is supposed that grave catarrhal con-

* The rennet zymogen, however, may still be found present.

ditions of the stomach lead to atrophy, and in this way also to achylia. For this reason Jaworski and Boas have designated that form of the gastric catarrh which is accompanied by a high diminution of the secretion of hydrochloric acid, and which goes on without formation of mucus, as the atrophic form, "Catarrhus chron. atrophicans." I, myself, had the opportunity of observing several cases of gastric disturbances, where cancer could be positively excluded, with a constant absence of free hydrochloric acid, but with the presence of the pepsin and rennet-ferments. Besides, I have known a young lady with no complaints whatever, and a flourishing and healthy appearance, to present the same condition of the stomach. These cases I have fully described in my article,[20] "Therapeutic Results of Direct Electrization of the Stomach." Should we observe in these cases with a lack of hydrochloric acid that with time the ferments also disappear, then the development of the achylia gastrica out of the grave forms of the gastric catarrh would be proven. Thus far such observations do not as yet exist, and it would be desirable to pay special attention to these points in the future.

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107 EAST SIXTY-FIFTH STREET.

COMPRESSION—THE CURE FOR SWOLLEN BREAST AND FOR SWOLLEN TESTICLE—TWO NEW APPLIANCES.[1]

BY TALBOT R. CHAMBERS, M.D.,

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THE old treatment of rubbing caked breast has not unfrequently been the direct cause of abscess, and is irrational. Take as a rough illustration a bunch of grapes and snugly pack it in a close-fitting bag. Rub the surface of the bag like the human breast was formerly done and consider the result. The grapes are bruised and their jackets burst. The rough handling of the human breast at any time, especially when in an inflamed state, may be followed by abscess or possibly by the initial steps of cancer.

The custom to-day is to apply a strip of muslin or other material around the chest which shall compress the caked breast and cause resolution of the induration, no matter what the cause unless it be tumor growth. In Orange Memorial Hospital a double strip is employed, one portion going above and one below the nipple line. It was first used in the Boston hospitals. It has its disadvantages. It requires skill and experience in its application and then is often painful, cumbersome, and dirty.

In order that a muslin bandage may be effective it must be put on tight. It is then unyielding and the patient feels as if in a vice. While annihilating the disease, it almost annihilates the patient. I do not claim that the muslin binder is always clumsily applied, but there is no doubt the majority of those applied are unnecessarily painful and awkward and not a few, perhaps, have done harm rather than good.

The principle is right. I can testify that during the past six years in no case where the bandage was properly applied, have I seen an abscess of the breast. During my eight years of practice previous, I had the misfortune to see one or more every year. The experience of the members of this Society has been similar.

To gently stroke the breast at or immediately about the nipple where the milk-tubes are straight, is rational and effective and does no harm. For the rest of the gland, if induration occur, compression—gentle, gradual, constant, firm compression alone should be used, and used early before suppuration has taken place. Gently but firmly oppose the centrifugal tension of the mammary body, whether the swelling be due to accumulation of milk, or to mastitis, or be from traumatism. Perhaps most cases of cancer of the breast have their causation in an injury of the breast. There may have been laceration of tissue with extravasation of blood or only a slight bruising with a limited exudation. This induration was benign in character and should have been resolved, but instead, acting as a foreign body, after a while it changed to malignant in character. Compression in the early stage here might have saved suffering and prolonged life.

All inflammations tend to recovery. They recover by resolution or suppuration. Unaided, permanent damage often results.

Now, convinced of the propriety of early compression for indurated breast, and disgusted with the working of the plain muslin bandage, I have experimented during the past year with what I have termed the "Caked Breast Cure," as a result.

It is an appliance to carry out the principle of equable, comfortable, cleanly, effective compression. Its rubber shields are accurately fitted by the dressmaker's art to the female form. It may be readily tightened or loosened by means of the corset-lacing behind and the shoulder-straps in front. The hand gently passed beneath, the shield lifts the breast into a comfortable position with the nipple escaping through the nipple-hole in the shield. It does not interfere with respiration. Without any previous experience in its use, the patient will readily understand it and its application. The milk runs over the outside of, and cannot get beneath, the shield. It is to be worn constantly, day and night, just as your muslin bandage.

The rubber has a peculiar charm of its own, acting kindly upon the irritated or inflamed breast beneath. It is only worn for a limited time, until resolution has taken place. The perspiration induced in some cases proves an advantage rather than a drawback. It may be washed. It is light and cool. It is scarcely possible for this appliance to do harm and the ease with which it is understood makes it peculiarly helpful to the obstetrician.

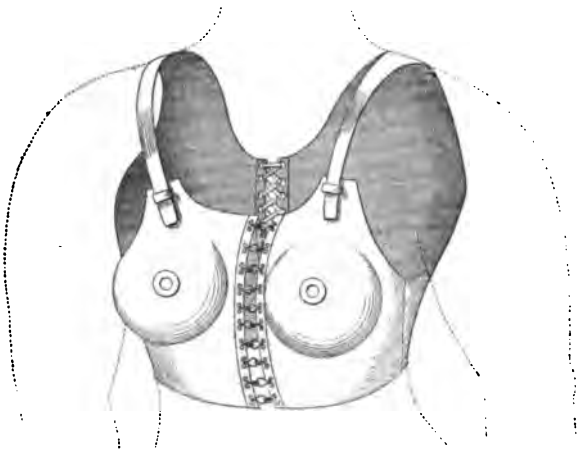
The only criticism that I have heard against it, is that it tends to dry up the milk. Well, so does the muslin bandage Care must be taken not to keep it on till so unfortunate an event should happen. I know that it has been a great comfort to several cases in which it has been employed for that purpose. Belladonna plasters were employed in addition and the desired result took several days, during which time the pressure might have been relieved before the milk had dried up completely.

I have shown the appliance to a number of my professional brethren in the Oranges and Newark and without exception they agree it will prove a help to the attending physician and a comfort and speedy relief to the sufferer with swollen breasts. All the nurses and patients who have seen or used it are enthusiastic in regard to it. It is not recommended when pus has formed. Then the poultice and knife and possibly this appliance afterward,

[1] Read before the Orange Mountain Medical Society and the Practitioners' Club, Newark, N. J.

to keep the abscess-walls in contact, would be the order of things.

The Caked Breast Cure is manufactured by the C. B. C. Co., P. O. Box 61, East Orange, N. J. It is made in two sizes, the smaller being for chests from twenty-six to thirty-one inches, and the larger size for those over thirty one inches.



With the idea in mind that compression of the inflamed mammary gland in its earlier stages is pain-relieving and curative, as certified to by the profession at large, I have sought to find out if, after all, the same principle might not apply to the inflamed testicle, a gland of very similar anatomical construction.

Compression in the early stages of swelled testicle was tried many years ago, but abandoned because no appliance was found which would fill the bill. I believe the difficulty has been overcome in the automatic appliance introduced in this paper.

Without going into the anatomy of the testicle, please call to mind the tunica vaginalis, albuginea, and vasculosa; the lobules and tubules, both straight and convoluted, with the lymph and blood-vessels and nerves, and you will see that blood-vessels freely supplied with sensory nerves make up a considerable part of the parenchyma of the gland; secondly, that the testicles hang freely in the scrotum, following every motion of the pelvis to which they are attached, and thirdly, the numerous convolutions of the tubes present a marked general resemblance in structure to the mammary gland.

In inflammation the first stage is congestion. There is an increase of the quantity of blood at the zone of inflammation. This of itself causes a swelling of the part, with increased pressure (whose degree corresponds with the elasticity of the enveloping tissues) there must necessarily be and is an exudation of serum and lymph, and blood if the inflammation is very violent. The cells of an inflamed gland are swollen, either from the increased nutrition or from the presence of the serum or from the peculiar action of the poison causing the inflammation. If the distention be rapid, the circulation in the capillaries is arrested by the pressure. If the capillaries are stopped there can be no arterial nor venous circulation and there is stagnation and death of the part. As Bryant says, death of a part is not due to cutting off the blood-supply to the inflamed part. The blood is in the tissues, but it does not circulate. It is from the stasis of its own blood-supply. He calls it static not dynamic gangrene.

In orchitis there are congestion of the fibrous stroma, swollen cells and exudation, all within inelastic walls. The pressure is centrifugal and relief is obtained by the way of least resistance, beneath the tunica albuginea, along the cord, hence the œdema of that part.

If effusion be excessive, death of parts may occur without inflammation.

Bryant in "Wood's Medical and Surgical Monographs" aptly states: Pain has always a common relation to tension. In parts poorly supplied with sensitive nerves there may be tension and no pain, as in an ovarian cyst. The distention of the mammary gland with its normal secretion is often most painful even without inflammation. The sprained joint becomes painful according to the degree of the swelling and tension.

By far the most common cause of swelled testicle is gonorrhœa, which makes the reason plausible why epididymitis is more frequent than orchitis. It would seem the inflammation passes by continuity from the urethra or prostate along the vas deferens and the explosion expends itself on the epididymis before reaching the testis. Gonococcus has not as yet been reported in the effusion of swelled testicle. With traumatism, mumps, gout, or syphilis as the exciting cause, the testis is involved. According to Ashhurst's "Surgery," the two always coexist, the one or the other being the more prominent.

Now, whatever the cause is, a sprained ankle, caked and swollen breast, distention of the eye by glaucoma, or swelled testicle, the thing to do is to diminish the blood-effusion and tension in the part, especially in the early stage before inflammation has been thoroughly developed and before suppuration has taken place. By so doing you save pain and abort the disease. For the sprained ankle you use hot water to accelerate the circulation and prevent stagnation and follow with compression by the Martin rubber bandage. For the glaucoma, early iridectomy, relieving the pressure, has saved many an eye.

Bryant says: Tension has a marked effect upon the progress of disease. It stands foremost among the causes of pain and in inflammation it is probably the chief factor. Tension in every degree has a destructive tendency and the rapidity of the destruction has a direct relation to the acuteness of the tension.

It is for these reasons that I hold, the sooner the tension is combated in swelled testicle the better it is for the patient, even though the cure might be painful, which it is not, if properly managed.

It is better to wait in mastoid disease until suppuration has destroyed all the bone-cells than to open early. Surely, then, interfere in the inception of swelled testicle. Do you wait for fluctuation in the caked breast before applying your compression? No indeed. Many a breast bandage is worn to day when the nursling is only three or four days old.

Call to mind, some very severe case of swelled testicle you have had under your charge. Did it not take several days before you could ameliorate the terrible sickening agony? Perhaps tartar emetic, the tobacco poultice, the meal poultice, ice-bags, hot-water bags, the ointments of iodoform, iodol, or carbolic acid, or possibly leeches were used. Perhaps Keyes's treatment of puncturing the testis was employed. Were you satisfied with any or all of these treatments? I can honestly say that I have not been nor has the patient. Hasn't the cure been worse than the disease? The patient has suffered the treatment because, like the old lady who was resigned when she died, she had to be. The patient was compelled to remain on his back with some support for the heavy, tense and swollen organ. The calls of nature were only with difficulty answered. The patient was a very sick patient. He had more or less fever. Morphine in large quantities was necessary perhaps. A nurse was necessary. In the later days strapping was employed on the diseased organ. This manœuvre of strapping is certainly a subterfuge for something better to do. You must shave the scrotum and to carry out its purpose reapply it daily. I hold that strapping is simply barbarous when other so much more satisfactory means are at hand.

Andrews suggested a piece of rubber sheeting be drawn snugly around the swollen testicle and held by a strip of adhesive plaster. This needs more or less readjustment and is inconvenient.

Another plan has been suggested and is in use to day. A thin rubber air-bag, large enough to cover perhaps one half of the swollen testicle, is applied in the collapsed

state against one side of the testicle. The surgeon wraps a piece of cotton or linen around the whole and ties or straps it into a constriction above the swelling. The tube of the air-bag is allowed to escape through a hole in the linen. The bag may then be inflated at will.

Dr. Hawes of California, has a double-walled rubber envelope by which he makes compression on a similar plan.

Somebody has proposed two hollow egg-shells of hard rubber perforated with holes through which strings pass and which when tied compress the testicle.

In New York in one clinic the dry poultice is used, in another the scrotum is lightly touched several times with the actual cautery and iodoform dressing is then put on covered with oiled silk or rubber tissue.

In swelled testicle we have an increased quantity of blood with the effusion of lymph in and about the organs in the scrotum and great centrifugal tension. If these two enemies may be repulsed the disease is aborted. If an appliance could be comfortably placed very tightly around the neck of the scrotum, it will by its constriction diminish the arterial supply which is already to a slight degree impeded. And if at the same time compression may be firmly brought to bear all over the scrotum and its contents a little more than is necessary to prevent the venous congestion consequent on the constriction around the neck of the scrotum, the purpose is accomplished. Then if the freely movable diseased and supersensitive organ shall be firmly held against the pelvis and all motion of it stopped, we have all the indications met.

It is with pleasure I offer an automatic appliance which escapes many of the criticisms of the appliances alluded to and so far excels the tobacco or other poultice that, once you have seen its kindly effective action, I am sure you will agree it is the best means of cure for swelled testicles to-day.

The appliance has received several improvements since it was first given out and is now nearly perfect.

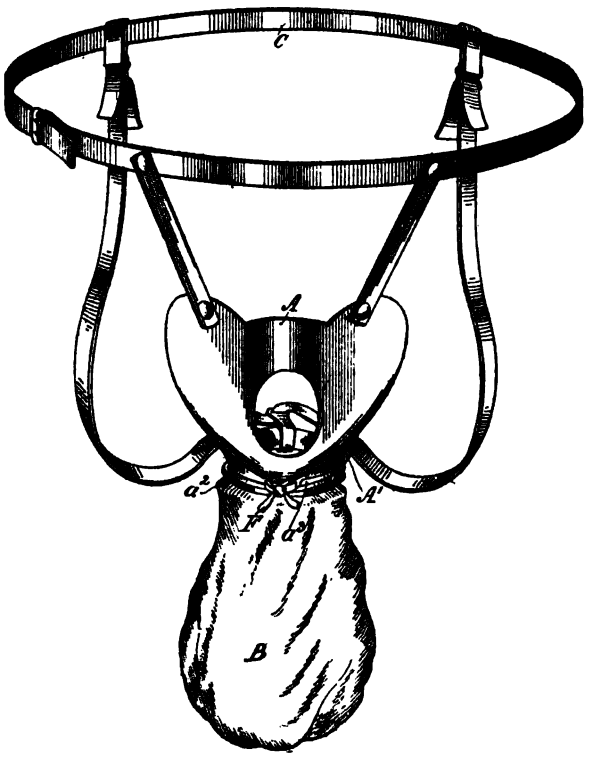
I can record a number of cases where the relief of pain was marvellous. The principle in this case is right, as it always was. The appliances have been faulty. In this appliance the pressure is automatic. It is steady, constant, firm, equable. It is not unyielding nor are there any sharp nor hard surfaces. Both, not the diseased testicle only, are included in the compress. It has been found that the innocent testicle is not made to suffer with the wicked organ but is made to share its joy at the relief from pain which comes as soon as the appliance is properly put on.

In ordinary practice some cases avoid going to bed who should. And some go to bed who, with proper attention, might be saved much loss of time, pain, and annoyance.

With the compressor properly placed none need go to bed. It is coaxing, not brute force, compression. It yields a little at first, but its ever-persisting action quietly limits the attack and hastens the organ back to its natural size, thus aborting the disease. Pain, fever, and malaise are all relieved. The patient need not go to bed with the pillow or other support, nor need he suffer at every call of nature. He may attend to ordinary business duties without loss of time. The appliance is not cumbersome and the disease not so awkward as by the old treatment. The compressor is readily adjustable, comfortable, neat, clean, compact and does the work. There is no need for greasy applications nor strapping. The patient's most intimate friends may remain in ignorance of his unfortunate infirmity.

The compressor consists of three pieces: An army and navy suspensory bandage made of elastic tapes; a gutta-percha shield which is supported above by the suspensory and which has a channelled collar to clasp the neck of the scrotum (this collar may be fastened as tight as desired by tying the tapes in front); the chief factor of the appliance is the rubber bag compressor. Two go with each appliance. The light one is put on first and facilitates the drawing on of the heavier or real compressor.

This compressor bag is cured after being blown up. The curing process is only carried to a certain degree,



the interior between the two surfaces being raw rubber. Now when exposed to the heat of the body, the bag tends to contract to the size from which it was originally blown. Herein consists its automatic action.

This bag is large enough that when stretched it will and may be made to include and cover both of the closed fists. They are sold by L. M. Weed & Co., surgical instrument maker, East Orange, N. J.

Nitric Acid and Criminal Abortion.—Dr. Bellin, of Charkoff, read, last fall, before a medical society in that city, a remarkable paper on eight cases of nitric acid drinking to produce abortion. The subjects took at first from fifteen to twenty drops of the acid several times a day, gradually increasing the dose. Severe symptoms appeared at the end of a month or six weeks. Abdominal pains, nausea, vomiting, constipation, and subnormal temperature were observed, with remarkable mental symptoms. The patients also grew thin. In the first case abortion took place at the third month and the patient was cured. In the second, abortion occurred at the same stage; the patient suffered miserably from abdominal pains afterward and ultimately killed herself. The third patient became insane. The fourth aborted at the fourth month and recovered. The fifth did not abort and recovered. The sixth committed suicide by swallowing matches, owing to the intense pain from which she suffered. Abortion occurred on the day before death. The seventh patient took the acid for two months without abortion occurring; she was syphilitic. The eighth, also subject to syphilis, took nitric acid for five weeks during the second and third months of pregnancy. She was delivered of a macerated fœtus at the sixth month and became insane. In all these cases where abortion occurred it happened when the poisonous effects of the acid were most marked, or later after they had been counteracted. Bellin believes that the pathological changes caused by nitric acid depend upon the influence of that acid on the composition of the blood.—*British Medical Journal, supplement.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE AMERICAN MEDICAL ASSOCIATION MEETING.

THE Detroit meeting of the American Medical Association, a full telegraphic report of which appears in this issue, may be regarded as one of more than usual importance from the point of view of attendance, as well as of the quantity and quality of the scientific work presented. The Sections were much better attended than at some of the previous meetings, and the interest taken in their work was such as to encourage the friends of the society to persevere in their efforts to rouse it from the apathetic state into which it seemed to be falling, and to infuse new life and energy into its scientific discussions.

That the old political schism, which was formerly so strong in the Association, is not wholly dead, was demonstrated very fully during the General Session on Wednesday. The action of the Judicial Council in withdrawing the privilege of membership from Dr. Potter must be regarded as unwise and illiberal, whatever may be said concerning its legality and justice. It precipitated a very heated discussion, which at one time threatened to degenerate into a disorderly row, a disaster which was only avoided by the able management of the President. Although it was asserted that the decision of the Council was final, yet its action was really reversed by a resolution introduced by Dr. Gihon, which provided that, until the special committee had reported upon the status of Drs. Potter, Van Derveer, and other permanent members from New York State, their registration and signature to the certificate presented to them should be considered *prima-facie* evidence of their standing and qualification for all the rights and privileges of permanent members.

In contrast to this action of the Judicial Council was the adoption of a resolution calling for the appointment of a committee to revise the Code of Ethics of the Association. This resolution had also been foreshadowed in the President's Address, a document which was characterized by broadness and liberal ty in its discussion of the delicate Code question.

The social part of this Convention, while rightly kept subordinate to the scientific, was not the least enjoyable feature of the meeting On Tuesday evening a reception was tendered the members of the Association and their ladies, by the medical profession of Detroit; on Wednesday evening the delegates were received by Mayor Pingree, General R. A. Alger, Mr. George S. Davis, and Mr. Frederick K. Stearns; and on Thursday there was an excursion on the Detroit River and Lake St. Clair. The weather was abominable, but that was nobody's fault, and served only to accentuate by contrast the kindly hospitality of the profession and citizens of Detroit.

Finally, we may add that the selection of Milwaukee, instead of Chicago, as the place of meeting for the Columbian year seems to us most wise, for the latter city, however enjoyable and instructive a visit there may be, will be no place for the holding of scientific conventions in the year 1893.

LA FEMME NERVEUSE.

So many varied conditions go to make up that mysterious entity, the nervous woman, that we are somewhat surprised at Deschamp's temerity in attempting to study her from a psychological and psycho-therapeutic stand-point (*Bulletin Gén de Thérapeutique*, February 15, 1892). There are plenty of neuropaths among the men, and it is highly probable that there would be quite as many nervous men as nervous women if every man possessed a uterus and a pair of ovaries. The essayist does not take this view of the question, however, but thinks woman is the being in whom, by heredity and culture, the nervous system has taken on the more intense development. For him the "nervous" are those who, endowed with an exaggerated sensibility, have not sufficient reasoning power to direct their volition. He divides them into three principal classes: The cerebral, the genital or sensual, and the neuropathic. In the first class we find a type of the superior sort of woman, who combines with finesse tact and delicacy, frankness, high-mindedness, disinterestedness, and a taste for manly occupations; for she is intelligent and directed in her acts by the things of intelligence.

Voluptuous preoccupation characterizes the sensual. She is clever, bright, but indelicate. She is cunning, but a cheat, and given to dissembling and prevarication. If circumstances warrant it, she loses all reserve, all check, and all sense of shame. The gifts of honesty and straightforwardness which her cerebral sister enjoys are here not to be discovered.

The simple neuropath is not so interesting a creature. She is the plebeian of nervous womankind. If of sensitive nature, she is ready to be ruffled by any passing trifle, and foolishly moved by every little thing If of the motor variety, she is never quiet or at rest, makes much ado about such nothings as directing her household affairs, and gives herself the airs of a hero taking a city by storm. She is convinced that nothing would go right without her superintendence, and in many other ways is quite as disagreeable as the sensitive neuropath.

The treatment of this condition is one of prevention. It is in the infant that we must study the woman of the future, and by physical and moral education strive to cultivate the *volonté* and combat the *caprice*.

Instruction should have for its aim the development and formation of the intelligence; there should be a broadening of the mind, so that the young girl can learn to reason and understand the ridicule which her caprices will bring upon her. The various ways of influencing the youthful mind to this end, as set down by the writer, are worthy of consideration, and if their application will result in a generation of strong-nerved women, it will be

much more practical than any subsequent attempt to cure by hypnotism, drug medication, or injections of nerve matter.

BRAIN ABSCESS FROM EAR DISEASE.

An elaborate memoir by Körner (*Archiv für Ophthalmologie*) and an admirable critical review by Le Fort and Lehmann (*Gazette des Hôpitaux*, March 26, 1892) bring together the facts at present known regarding the subject of ear disease and brain abscesses. Inflammation of the ear is credited with causing one third to one-half of all the abscesses of the brain. Since the time of aseptic surgery there is no doubt that the ear plays, relatively, a greater part in causing the brain disease. Chronic otitis media is usually the starting-point, it being only in rare cases that an acute process is the cause, and when the labyrinth, external ear, or mastoid is involved, it is usually secondary.

Brain abscess from ear disease occurs two or three times oftener in the cerebrum than the cerebellum, the latter ratio being more correct. If in the cerebrum, it is the temporal lobe that is almost always involved.

Various views have been expressed as to the seat of the abscess and its relation to the seat of the ear disease. According to Körner, lesions of the tympanum and mastoid cells cause brain abscesses, lesions of the labyrinth, and cerebellar abscesses. Others have stated that mastoid disease is more liable to cause cerebellar abscess. Robin asserts, on rather insufficient data, that sinus thrombosis and cerebellar abscess occur oftener in adults than in children. Probably, as Pitt suggests, much depends on the individual variations in the shape of the skull and the course of the sinuses.

There is no question at present that the abscess is caused by microbic infection along the venous and lymphatic channels. In recent times the existence of meningitis and phlebitis has been oftener recognized than formerly. Brain abscess from ear disease occurs more frequently on the right side than the left; it is rarely seen after forty years of age, and is found more frequently in persons under the age of ten (Körner). The abscesses are single in about five-sixths of the cases, and they are accompanied with meningitis or phlebitis in three times out of four. In the cerebellum they are always in a lateral lobe, the pus has often a fetid odor.

The symptoms are best classified under the head of those of suppuration, those of pressure, and those of local irritation or destruction. Much has been said about the temperature, and about all that can be gathered from various experiences is that the fever curve is very irregular, that there is often a normal or subnormal temperature; chills are certainly rare. Headache—often intense—vomiting, slow pulse, falling to 40 or 50, irregular respiration, mental hebetude, are acknowledged to furnish valuable indications. Optic neuritis sometimes exists, but not very often. Little can be learned from the state of the pupils. Dryness of the tongue, constipation, nausea, local tenderness and hyperthermia, aphasia, hemiplegia, emaciation, strabismus diplopia, are all minor signs which may have some importance. While there is no pathognomonic sign of this disease, the history and course generally make its recognition easy.

The treatment is necessarily surgical. A great many methods of operating have been devised, but probably the rule suggested by Barker, and modified by Stoker, is the best. A line is drawn 1½ inch back from the external meatus, and from the end of this a vertical line is erected 1¾ inch in length. The trephine is applied at this point if a temporal lobe abscess is suspected. If there is phlebitis, the jugular vein and lateral sinus are opened and washed out. The successes so far, in forty-four cases, have been fifty per cent.

THE NEW QUACKERY.

No one who has read the daily papers for the last decade or two can fail to notice the curious change which has occurred in the methods of advertising adopted by the quacks who patronize their pages. It used to be the custom to advertise the specific power of certain pills or mixtures, accidentally discovered perhaps by some unselfish clergyman while teaching the natives of Central Africa or South America. The reader was assured with positiveness of the unvarying efficacy of the cancer-cure, consumption-cure, and kidney-cure in question.

Now, however, the tendency is for quacks to publish short clinical lectures and reports of cases, with pictures of some grotesquely healthy individual who had suffered martyrdom from Bright's disease or catarrh before he happily fell into the hands of the celebrated Dr. X. The quack often portrays with some fidelity the ordinary symptoms of the disease he especially treats. In this way other sufferers recognize and get a name for their ailments, and their minds are turned hopefully toward the confident advertiser. Then the record of cure is made complete by a letter from the patient, and what further evidence can be asked?

The modern quack is less of a fool and an ignoramus than his predecessor. He is sometimes a man of good medical education and experience; and has, perhaps, learned the methods of treating catarrh, fits, phthisis, Bright's disease, rheumatism, and neurasthenia, ordinarily employed by physicians. His essential distinction is that he advertises dishonestly and practises dishonestly, for he promises what he cannot surely do. Perhaps on the whole he does not do quite so much harm as of old. As to whether he thrives as well we cannot say; but it seems improbable. The modern quack has to hire a whole column of a newspaper, and perhaps occasionally a hall, in order to beat his rivals; and every year it looks as if, to be successful, he must advertise more. Eventually the time will come when it will cost so much to advertise successfully that the quack will be driven, perforce, to honest methods. The development of the modern quack is a good argument, if any were needed, against the advice that doctors ought to advertise like other people who seek business patronage. Aside from any question of morality and propriety it would soon be found that the practice would become an economical impossibility.

A single child, sent to school before complete recovery from scarlet fever in one of the arrondissements of Paris, was clearly shown to have been the direct cause of a hundred and fifty other cases of that disease with eighteen deaths.

News of the Week.

The Twenty-fourth Annual Commencement of the Woman's Medical College of the New York Infirmary was held on May 27th, and a class of twenty-one was graduated.

A New Medical Senator in France.—M. Labbé, the well-known Paris surgeon, has just been elected Republican senator of the Department of Orne.

Dr. Charles Buchanan, F.R.S., has been knighted on retiring from the post of Medical Officer to the Local Government Board. Dr. Buchanan is a distinguished sanitary worker. One of his best-known reports was that in which he showed a relation to exist between the distribution of phthisis and dampness of soil. His researches on this subject were in point of time anticipated by those of Dr. Bowditch, of Boston, but Dr. Buchanan's work was independent and carried on in ignorance of what Dr. Bowditch had done.

Arizona Medical Association.—The first medical society ever organized in Arizona was formed at Phœnix, on May 25, 1892. A strong and rigid constitution was adopted, and officers elected as follows: *President*, Dr. J. Miller, of Phœnix; *Vice-Presidents*, Dr. A. Martin, Phœnix; Dr. M. M. Gilbert, Mesa City; Dr. I. B. Hamilton, Tombstone; *Secretary*, Dr. John Traill Green, Tucson; *Treasurer*, Dr. W. H. Sullivan, Tombstone.

American Association of Andrology and Syphilology.—The sixth annual meeting will be held at the Spring House, Richfield Springs, N. Y., June 21 and 22, 1892.

The Medical Society of New Jersey.—The next annual meeting of the Medical Society of New Jersey will be held in the United States Hotel, Atlantic City, on Tuesday and Wednesday, June 28 and 29, 1892.

The American Climatological Association meets at Richfield Springs, N. Y., June 23d and 24th.

Dr. M. C. O'Brien, formerly House Physician to Hospital for Nervous Diseases and Epileptics, and Charity Hospital, has been appointed Neurologist to the Harlem Hospital Dispensary, by the Commissioners of the Department of Public Charities and Correction.

American Neurological Association.—Eighteenth annual meeting will be held at the New York Academy of Medicine, June 22, 23, and 24, 1892.

The Medical Society of the State of New York.—The Business Committee of this Society has been organized for the meeting of February, 1893, by the appointment of Dr. Seneca D. Powell, of No. 12 West Fortieth Street, New York City, Chairman, and Drs. William Maddren, of Brooklyn, and John O. Roe, of Rochester, Associates. The programme for the scientific work of the session is already well advanced in its preparation.

Ralph Cross Huse, M.D., died of Bright's disease at Georgetown, Mass., June 1, 1892. He was born at Newburyport, Mass., August 21, 1843. He graduated at Harvard Medical School in 1856. He was appointed acting Assistant Surgeon United States Army, on November 7, 1864, Third New York Volunteers. He served in the army of the James, North Carolina; siege of Fort Fisher, where he was wounded in the thigh; also private, Co. A, Forty-eighth Massachusetts Volunteers, with General N. P. Banks, 1862–63; Baton Rouge and Donelson. His services terminated May 31, 1865, by reason of the wound received at Fort Fisher.

Dr. William R. Birdsall, of this city, died June 7th. He was graduated from the University of Michigan in 1876 and the College of Physicians and Surgeons of New York in 1877. He was Attending Physician at the Manhattan Eye and Ear Hospital and the Deaf and Dumb Asylum, and an active member of the County Medical Society, the Academy of Medicine, and the Lenox Society. He was forty years of age and leaves a widow.

The Medical Association of the District of Columbia, we learn from the Washington newspapers, has incorporated in its by-laws the following declaration: "No graduate of medicine shall be eligible to membership in the association who shall not devote his entire time to the practice of medicine." This is aimed at the department clerks who have obtained a medical degree and practise after office hours.

In Memory of Professor T. G. Richardson, M.D.—The following resolutions have been unanimously adopted by the faculty of Tulane University of Louisiana:

Whereas, Professor T. G. Richardson, M.D., was called to New Orleans as a citizen by the Medical Department of the Tulane University of Louisiana, and continued his connection therewith from April 19, 1858, until severed by death, May 26, 1892, and having given to the Medical Department thirty-one years of active service, fourteen years as Professor of Anatomy, seventeen years as Professor of Surgery, and twenty of these years as Dean; and having also given during the last three years of retirement from active service the most convincing proofs of his great devotion to the present and future welfare of the Medical Department;

Resolved, That Professor Richardson, endowed by nature with physical, mental, and moral superiority, was pre-eminently distinguished for his culture and skill as surgeon and physician, which gained for him national reputation and rendered him one of the most instructive and popular of medical teachers; for exceptional scientific attainments, which, while broadening his views of nature's God, left him none the less firm in his Christian faith; for his courage and patriotism in war and his benevolence and philanthropy in peace; for his moderation and wisdom in council, and for his zeal and ability in executive administration; for his inflexible devotion to truth, honor, and duty; for the strength of his friendships in adversity as in prosperity, and for the fidelity, tenderness, and devotion given to his beloved and honored wife.

Resolved, That by the death of this strong, wise, and good man the medical department has lost its most valued friend and counsellor; the medical profession its most honored representative in New Orleans; the State of Louisiana a citizen unsurpassed for patriotism and for worth; his friends a heart to love and a hand to help them, and his wife and family one who has left precious memories of a loving, virtuous, and noble life.

Resolved, That at the next Annual Commencement, April 5, 1893, memorial addresses upon the life and services of Professor T. G. Richardson, M.D., shall be de-

livered. — STANFORD E. CHAILLE, M.D., Dean, Medical Department, Tulane University of Louisiana, New Orleans, La., May 30, 1892.

College Commencements.— The Detroit Medical College graduated a class of 51 on March 22d. The Michigan College of Medicine and Surgery graduated a class of 34 on March 15th. The Medical Department of the University of Pennsylvania held its one hundred and eighteenth Annual Commencement on May 6th, and conferred diplomas on one hundred and fifty-four graduates.

The Medical Colleges of the United States.—The following table has been prepared from the Report of the Commissioners of Education for the year 1888–89:

	Number of Schools.	Professors and Instructors.	Students.	No. of Graduates at Commencement of 1889.	Amount of State or municipal aid received within a year.	Benefactions.
Regular.....	92	1,907	12,338	3,296	$24,820	$87,139
Eclectic.....	9	116	669	186	.....	5,200
Homœopathic...	14	249	1,159	312	25,000	16,004
Physio-medical...	1	11	15	5	.....	200
Post-Graduate...	7	261	909	25	.....	19,600

—*Medical Age.*

A Hint for New Jersey.—To rid the house of mosquitoes, evaporate gum camphor in the room by placing a piece in a plate and holding it over a lamp until the fumes penetrate the room.

The Metric System.—In the new United States Pharmacopœia, now in course of preparation, the metric weights and measures will be adopted throughout, to the entire exclusion of the English weights and measures hitherto used.

Society Meetings during June.—June 1st, Ontario Medical Association, at Toronto; June 2d, Oregon State Medical Society, at Portland; June 2d, Rhode Island Medical Society, at Providence; June 2d, State Medical Society of Arkansas, at Little Rock; June 4th, American Academy of Medicine, at Detroit, Mich.; June 7th, American Medical Association, at Detroit, Mich.; June 7th, Massachusetts Medical Society, at Boston; June 8th, South Dakota State Medical Society, at Salem; June 14th, Medical Society of Delaware, at Dover; June 15th, Minnesota State Medical Society, at St. Paul; June 20th, American Association of Andrology and Syphilology, at Richfield Springs, N. Y.; June 20th, New Hampshire Medical Society, at Concord; June 21st, Colorado State Medical Society, at Denver; June 22d, American Neurological Association, at New York; June 28th, Medical Society of New Jersey, at Atlantic City.

Infection by Telephone.—The possibility of infection by the use of the telephone mouthpiece by successive speakers has been hypothetically discussed before now. A correspondent of the *British Medical Journal* brings forward some facts in support of the possibility of such an occurrence. Dr. Anderson, the Medical Officer of Health for Dundee, who has had the matter submitted to him, has given a very sensible answer, which sums up the position in a practical manner: "If a person who is suffering from sore throat of an infectious nature brings his mouth into close, or even near, relation to the mouthpiece of a telephone instrument, I think, in the act of speaking and expiration of air from the lungs and throat, it is possible that infectious particles might adhere to the instrument. I think an instrument which is so much exposed to the human breath should be frequently cleansed, whether the instrument be in a public or private room, and perhaps the simplest and most convenient cleanser is warm water and carbolic or sanitas soap."

The Intercolonial Medical Congress of Australasia is to be held in the grounds and buildings of the University of Sydney during the week commencing September 26, 1892.

A Curious Example of Applied Science has just been recorded by Mr. Marmaduke Sheild. A plumber, while carrying a pot of molten lead, fell, and some of the liquid metal splashed into his ear, causing indescribable agony, as may well be imagined. After the immediate effects of the injury had passed off, it was found that the metal had burst through the tympanum and filled the tympanic cavity, the surface of the lead being just flush with the remains of the drum. It had also penetrated the Eustachian tube and the various depressions in the middle ear, so that removal by the ordinary means was impossible, so tightly impacted was the mass, in spite of the most patient and persevering efforts. It then occurred to the ingenious operator to try the effect of solvents, and mercury at once suggested itself as a possible agent. Experiments having satisfied him of the feasibility of the process, a quantity of metallic mercury was introduced into the ear and retained there for some time. Altogether the treatment was kept up for about sixteen hours, and the success of the experiment was soon testified to by the escape of some of the mercury along the Eustachian tube. Ultimately, an energetic syringing brought away, first, some of the *débris*, and then the mass itself. Mr. Sheild may with justice congratulate himself and his patient on the success of his ingenious plan of treatment. —*Hospital Gazette.*

"Vitaline."—A Russian quack introduced into use a secret remedy which he called "vitaline." It had the power of rejuvenating the old and curing the young. It became immensely popular, and over ten thousand people received the injections. Finally a patient died, the quack was arrested, and confessed that his remedy was only borax and glycerine.

Ernst Brücke's Last Works.—The celebrated physiologist, Ernst Brücke, who died not long ago, had to resign his professorship in Vienna in 1890, in accordance with the statutes of Austrian universities, which require the retirement of professors who have completed their seventy-first year. The time thus placed at his disposal was spent by him in writing two books, one entitled "Schönheit und Fehler der Menschlichen Gestalt ("Beauty and Defects of the Human Form"), which appeared in 1891; the other, "Wie Behütet man Leben und Gesundheit seiner Kinder?" ("How can one Guard the Lives and Health of one's Children?") which appeared after his death.

A State Asylum for Epileptics.—One thousand epileptics are expected to enter the Asylum for Epileptics now being erected at Gallipolis, O. This is said to be the first institution of the kind erected in this country.

Society Reports.

American Medical Association.

FORTY-THIRD ANNUAL MEETING.

Held in Detroit, Mich., Tuesday, Wednesday, Thursday, and Friday, June 7, 8, 9, and 10, 1892.

(By Telegraph to the MEDICAL RECORD.)

FIRST DAY, TUESDAY, JUNE 7TH—GENERAL SESSION.

THE opening session of the Forty-third Annual Meeting of the American Medical Association was held in the Detroit Opera House on the Campus Martius. The meeting was called to order at eleven o'clock by DR. H. O. WALKER, Chairman of the Committee of Arrangements.

After a prayer by the RT. REV. THOMAS F. DAVIES, Episcopal Bishop of Michigan, a brief address of welcome was delivered by GENERAL R. A. ALGER. The speaker expressed the pleasure which he felt welcoming to Detroit and Michigan the members of this great Association. The city was glad to receive them, every door was open to whomsoever sought admittance. The people would do all that lay in their power to make the stay of the visitor a pleasurable one. If any of the medical guests did not see what he wanted, he had only to send for it, and if he did see what he wanted, he was to take it.

DR. WALKER supplemented this address by a few words of welcome from the medical profession of the city, whose honor it was to entertain for the third time the American Medical Association. He then introduced the President of the Association, DR. HENRY O. MARCY, of Boston, presenting him at the same time with a handsome gavel made from the wood of the celebrated Pontiac tree, a tree which was the silent witness of the final triumph of the infant settlement of Detroit over its savage foes.

THE PRESIDENT thanked the committee for its gift, and said that he felt a peculiar pleasure in being able to reciprocate by presenting to the Association a gavel with other and no less precious historic associations. It was made from a piece of the Charter Oak of Hartford with a handle of wood from the United States frigate Constitution. Armed with those two symbols of authority, he entered with no misgivings upon the honorable task of guiding the deliberation of the representative assembly of the physicians of the United States.

Evolution in Medicine was the title of the President's address. The American Medical Association, he said, holds a position among the great medical societies of the world in many ways unlike that of any other. Born of a felt want among the members of a profession widely scattered in a comparatively new and imperfectly developed country, it struggled along in the weakness of its infancy, conquering the disadvantages of great distances, compassed by comparatively slow, tedious, and expensive means of travel. It was wisely enacted that the Association consist in a large degree of delegated membership, since this makes it, as by no other plan, a representative body, and he thought that it was not too much to claim that it stands as the exponent of the medical thought and progress of the profession of the United States.

Although the speaker held that the Association must have its own inherent law, its Code of Ethics, he inclined strongly to the side of liberality, and believed that the differentiation between so-called schools of medicine should be made alone between ignorance and knowledge, since it is only fair to grant that considerable classes of men devoted to a common calling must be adjudged alike honest, and that their own selfish interest in the attainment of success in any given profession must be determined by the adaptation of the best means to a given end. Such differentiation means the abolition of ism and pathy, and there will be introduced in their stead a more or less accurate interpretation of scientific law as to what constitutes the treatment of disease, of which year by year there is the constantly increasing demonstration that the mere administration of drugs, no matter how valuable, is the least important part.

The rise of homœopathy as a separate school of medicine was due in great measure to the unreasoning and dogmatic opposition of an exaggerated conservatism, one effect of which was to arouse public sympathy for the advocates of the new theory, who were thus placed in the position of the under dog in the fight. In Europe, where the new doctrine was given a chance to prove its superiority, it has made little or no way among the people or in the universities.

The speaker then referred to the anomaly of two distinct State societies in New York, which, however, has had the good effect of stimulating both societies to the accomplishment of excellent scientific work.

The Relation of the American Medical Association to the General Profession in America.—There has arisen, even among the warm supporters of the American Medical Association, the inquiry if the larger service of the organization to the profession at large had not been accomplished, coupled with the criticisms that our country is far too great, and extending over too much area, for any one central body; that the development of our art has grown beyond the possibility of personal compass; that this is the age of specialism; and that the evolution of the medicine of the future must, of necessity, be in the hands of special societies devoted to the perfecting of certain lines of investigation. In the recognition of a common want there have been formed national societies, limited in membership, covering all the special branches of medicine and surgery. Under the leadership of a few master spirits it has been thought quite sufficient to bring these special societies together at repeated intervals under the attractive title of "The American Congress of Physicians and Surgeons." All this, Dr. Marcy said, met his approval, but he could not help thinking that such an argument was founded on a false conception of our professional duties and their relation to our life work; since, regardless of the specialistic development to which we may subsequently attain we must begin upon a common level and master, with greater or less fidelity and patience, the fundamental branches of medicine; and he who does this well and perfects himself most broadly and deeply in a general way, in practice as well as theory, finds himself subsequently the better fitted for specialistic labor. In the general field of medicine the great rank and file of the profession must continue to work, and as the representative body of this vast army of workers the American Medical Association, without fear or favor, must continue to be its exponent. Here, as upon a common altar, the most obscure may bring his offering and find inspiration which will help to make him subsequently a leader in some one of the many fields of specialistic research and a contributor to the resources of his profession in such a way that we will gladly entwine about his brow the laurels of immortality. There is no occasion for jealousy between the national societies of our great country. The field is large and the work ample.

The speaker then dwelt upon the relation of the Association to the State societies, the annual meetings, the labors of the Sections, and the work accomplished by the *Journal* of the Association.

The Evil of Intemperance was touched upon briefly, the matter being one which concerned so closely the members of our own profession, than whom none are better qualified to instruct the public upon the uses and abuses of intoxicating liquors.

A National Board of Health.—As to the question of a National Board of Health, the speaker regarded it as one of great importance. It had been urged, with reason, and he trusted that it would soon be carried into effect, that not only such a wisely selected National Board of Health

should be re-established by the general Government, but also that it should find its exponent in a specially appointed member of the Presidential council to be known as Secretary of the Public Health. In the United States such an organization is not only more necessary than in any other country, on account of its widespread geographical area and population existing under more diverse conditions, but also because the medical officers of our Government, in both the Army and the Navy Departments, are much less in number than those of the European nations. We are deeply indebted to the American Public Health Association for the exceptional work which has been accomplished under its auspices in the advancement of sanitary science and the practical application of public hygiene. Its publications have proved a very efficient means for the dissemination of valuable knowledge. The work of the Department of Agriculture had given great satisfaction, and its field of usefulness was about to be extended by a bill now pending, which has for its purpose the protection of the public from the adulteration of food products in the United States. It is an important subject, an effort made in the right direction for the protection of the people from stupendous frauds and imposture, resulting in great injury to the community, oftentimes fraught with the gravest dangers to life, and it should meet with the heartiest approval and active support of our entire profession. The food products presented for sale in our markets should be reasonably safe for public consumption, as assured by Government inspection.

The Relation of the Association to the Medical Profession in Foreign Countries was a cause of much satisfaction. At the Berlin Congress there were over six hundred and fifty members from the United States, the largest number representing any nationality except Germany. The great majority of these were delegates from this Association. The speaker then referred to the Pan-American Medical Congress, and said that if our nation fulfils its apparent destiny, the early future will see no longer the necessity of our advanced pupils making European pilgrimages for original research and study in foreign languages, but rather that our own great centres of learning will be selected as the Meccas of the best modern thought, where students of all nationalities shall gather for instruction. Professor Virchow, in his presidential address before the last International Medical Congress, congratulated the surgeons of America as at present representing the best attainment of surgical teaching and practice in the world. It is not too much to claim that we are now equipped to compete successfully with any of the great centres of European learning for the teaching of medicine in all its numerous branches, and few more potent measures can be advocated, for the better union of all our Western interests and the moulding of the scientific thought, in its various branches of learning, of the leaders in this coming civilization of our great Southern continent.

Consumption.—The fell destroyer consumption is the greatest scourge of the human race, counting its victims, in the United States alone, over one hundred thousand annually. We have the clear demonstration of its cause, as a particulate morbific entity, with its life history and development now clearly established; how it enters the human organism, and by its propagation and development results in the death of the individual. The discovery is sufficient honor to one man, we might almost say to one generation, since, based upon such knowledge, there must develop means for its control, if not its extermination. "A nation's health is a nation's wealth," a nation's happiness. The application of the principles of modern science, as already known to us, introduced into the practice of daily living, would diminish sickness and suffering one-half and the death-rate by at least one-third. It is for the medical profession to show how these principles may be applied and how this scourge may be deprived of its terrors. It becomes us, as a great high priesthood of the most sacred calling, veritably as Moses to an enslaved people, to point out the way of life, its dangers, and how to avoid its accidents, and to direct in the great highway of human endeavor the development and fruition of the human race, a training of the soul's pupilage for immortality—*Mens sana in corpore sano.*

The address was referred with the thanks of the Association to the Committee on Publication.

Dr. Gihon reported the death of Dr. Brodie, of Detroit, ex-president of the Association, and moved a vote of condolence to the family.

Dr. Bray Prest, of the Canadian Medical Association, was then introduced and extended a cordial invitation to all members of this Association to attend the meeting of the Canadian Society at Ottawa, September next.

The Report of the Secretary was then read by Dr. Atkinson. It dealt chiefly with the question of representation in the Association, a subject which presented many difficulties owing to the diverse laws of the societies in the different States. The speaker proposed action leading to greater uniformity in respect to membership in the various State and local medical societies.

It was voted that the question of representation of the Mississippi Valley Medical Society be referred for decision to the Judicial Council.

Report of the Committee on Sections.—Dr. Marshall, of Chicago, read the report of the Committee on Sections which had been appointed to devise means for improving the work of the various Sections. The Committee advocated that more time be given to Section work by shortening the general sessions. In order to effect this it proposed an amendment to the Constitution, to the effect that an executive committee of three members from each Section be appointed to constitute a general business committee, to which shall be referred all new business introduced in general session, and which shall also take the place of the Nominating Committee. The amendment was moved as a substitute to the one introduced by Dr. Culbertson at the last meeting. The report of the Committee was adopted. It was objected that this proposed substitute to the amendment involved such radical changes in the organization of the Association, taking away entirely its representative character, that it should not be considered this year, but should lie over as a new amendment. A motion to lay on the table was lost. The Chair decided that the substitute should lie over for one year, but on appeal his decision was not sustained. It was then moved to amend by striking out the clause relating to the Nominating Committee, and the amended substitute was then adopted by a two-thirds vote.

Secretary of Public Health.—A long report of the Committee on Secretary of Public Health was then read. The Committee reported progress, asked to be continued, and begged that physicians throughout the country urge the consideration of this measure upon their representatives in Congress. After a protracted discussion the report of the Committee was adopted.

Although there were several committees yet to report, it was so late that an adjournment was had, in order not to encroach upon the time allotted to the work of the Sections.

The attendance at this meeting, to judge from the large audience at the opening session, is greater than for several years previous. The house was well filled by the delegates and their wives, while the familiar faces of many of the older and venerated leaders of the Association were visible on the stage. In addition to this the stage was further ornamented by graceful palms and hydrangeas, and other potted plants.

In the evening a reception was tendered the members of the Association and their ladies, at the Light Infantry Armory, by the medical profession of Detroit. The lady visitors were also entertained by carriage drives around the city and yacht sailing on the river in the afternoon.

SECOND DAY, WEDNESDAY, JUNE 8TH.

The session was opened at eleven o'clock by the President.

After the announcement of meetings of special committees and sections, the Secretary read a resolution offered by DR. HOUGHTON, of Vermont, calling for the appointment of a committee to consider the changes, if any, that it may be deemed necessary to make in the Code of Ethics. On motion this resolution was adopted.

The Judicial Council then reported upon the question of membership of Dr. W. W. Potter, of Buffalo. The Council reported that the New York State Medical Society and the Erie County Medical Society are not in affiliation with the American Medical Association, hence Dr. Potter, as a member of these societies, cannot be recognized as a member of this Association.

DR. REYNOLDS, of Kentucky, moved to refer the report back to the Council for consideration.

THE PRESIDENT decided that the question was out of order. An appeal to this ruling was taken, but the President was sustained.

For a time the Convention was in the utmost disorder, and a very serious quarrel seemed to be imminent; but, thanks to the firmness and intelligent guidance of the presiding officer, peace was finally restored. Although the delegates voted by a large majority to sustain the President's ruling, it was evident that very many of them were not in sympathy with the action taken by the Council in depriving Dr. Potter of his right to membership.

DR. C. A. L. REED, of the Committee on the Pan-American Medical Congress, reported progress.

At the conclusion of Dr. Reed's report DR. VANDERVEER, of Albany, rose to a question of personal privileges. He said that he and a number of his colleagues, members of the New York State Medical Society and permanent members of the American Medical Association, wished to know where they stood. They had been invited here by officers of the Association and had been asked to read papers, and now one of them had been declared not to be a member of the Association. They were thus placed in a very embarrassing position.

DR. REED, of Ohio, moved that the question of the status of the permanent members from New York State be referred for consideration to the Judicial Council.

This was followed by a long discussion and the introduction of several substitute motions.

It was moved as a substitute by DR. KING, of Missouri, that the President appoint a committee of five to meet with a like number from the Medical Society of the State of New York, to adjudicate upon the standing of members of that society, and report at the next annual meeting.

An amendment was offered to this by DR. GIBSON, of the United States Navy, that until this report was made all the permanent members from New York State now registered retain their privileges in the Association.

A further amendment was introduced by DR. TRUAX to the effect that five members from the New York State Medical Association be added to this Conference Committee.

The substitute motion and its three amendments were finally carried unanimously.

Address on Surgery.—DR. JOHN B. HAMILTON then delivered his address, the subject of which was "The General Principles of the Surgery of the Brain and Its Envelopes." There is an old axiom, the orator said, to the effect that there is no wound of the head too small to be despised, and none too grave for life to be despaired of. In spite, however, of this, the general rule has been, until recently, to rely in most cases of cranial injury upon the *vis medicatrix naturæ*.

The speaker then reviewed the history of cerebral surgery from the earliest times down to the present. Some progress has been made in operative measures, especially in the use of the surgical engine, but the most marked advance has been in the line of diagnosis of intra-cranial lesions. The use of the phrase cerebral localization was condemned, the speaker holding that the single word diagnosis was sufficiently comprehensive. In the case of abscesses as well as of gun-shot injuries the diagnosis is often extremely difficult. The localization of critical lesions is often comparatively easy, but that of affections of the cerebral ganglia is a matter of extreme uncertainty. What is most feared after an injury to the skull is the formation of cerebral abscess. This, it should be remembered, may follow a simple fissure almost as readily as a more extensive wound. The deeper parts most remote from the surface are most liable to be the seat of a suppurative process, owing to the difficulty of cleansing them and freeing them from particles of foreign matter. Intra-cranial hemorrhage is another danger to be apprehended. The speaker then quoted the reports of a number of cases of operation for traumatic hemorrhages, taken from recent literature. Trephining for aphasia after injury is not a very rare operation, but it has seldom been done when there was no external wound. The necessity of distinguishing between sensory and motor aphasia was insisted upon. In the matter of trephining, Dr. Hamilton referred to a recent paper by Dr. Roberts, in which the writer made a strong plea for conservatism, condemning what was called experimental operations. He insisted, however, upon the necessity of trephining in the case of punctured wounds.

Cerebral Injuries in the New-born.—Operative interference in these cases has been generally barren of results. The operation of craniotomy for the relief of intra cranial pressure and microcephalus was referred to, and the reports of some cases read. Spinal laminectomy—as recommended by Mr. Luke for the relief of intra-cranial pressure from accumulated cerebral fluid—was mentioned with approval. The writer believed it was worthy of a trial in suitable cases before a resort was had to craniotomy, for the reason that the further removed from the head was the point of operation the greater the safety to the patient. The ancient practice of trepanning for epilepsy has lately been revived in certain cases, with apparent benefit; but the cases ought to be carefully selected, and indiscriminate operation was to be condemned. The speaker then referred briefly to certain recently performed operations on the cranial nerves, especially to the removal of the Cæsarian ganglion for relief of inveterate neuralgia, and to Hartley's intra-cranial neurectomy.

In conclusion, Dr. Hamilton said that, although the progress in cerebral surgery had been considerable, there yet remained much to gain in this field. What had already been accomplished was due in the first instance almost wholly to the labors of Pasteur and Lister, which had resulted in the universal adoption of antiseptic surgical methods.

On motion the address was referred, with the thanks of the Association, to the Committee on Publication.

After the reading of some notices by the Secretary, Dr. Atkinson, the session was then adjourned.

THIRD DAY, THURSDAY, JUNE 9TH.

Annual Report of Rush Monument Committee.—DR. GIHON then presented the annual report of the Rush Monument Committee. A contribution of $300 from the exhibitors at the Nashville meeting had been received. Nearly $600 had been contributed by the county societies in Pennsylvania. While other offerings had not been so liberal, yet the Committee was in a position to state that a memorial would be erected, the question now being simply one of the size of the monument, whether it should be a full-length statue or a modest bust.

A resolution was passed endorsing the efforts of the Association of Medical Colleges to raise the standard of professional education.

The Journal of the Association.—The report of the

trustees of the Journal was then presented, and, after some discussion, accepted.

The Committee on the Jenner Centennial recommended that the Association devote one day during the meeting in 1896 to eulogies, papers, and volunteer essays on Jenner and the practice of vaccination.

The Address on General Medicine was the next business in order. Some delegates attempted at this point to renew the quarrel of yesterday over the question of membership of the New York men, but were not encouraged by the rest of the body.

Dr. Alfred L. Gihon, U. S. Navy, took as his subject "Intellectual Progress in Medicine." The most gratifying outcome of the year was not the announcement of new therapeutic means nor the publication of nosological novelties, but rather the steadily rising standard of medical editorship. He urged an earnest countenance and substantial support of medical literature, not merely by subscribing for the journals, but by contributing to them. The specialty of medical journalism requires the highest order of ability, the broadest culture, and the widest range of information, if it is to be successfully prosecuted.

As compared with other branches of journalism the speaker believed that medical periodicals were more widely read and their contents were more carefully scrutinized, while their editorial leaders, notes, and criticisms are more independent, fearless, and unbiased. Dr. Gihon also congratulated the Association upon another sign of the progress of the day in the reform of medical education. A minimum of three full courses, in many schools four, and these consequent upon prerequisite academic or collegiate tuition, expressed in one university as six years of continuous college tuition for the intending physician, is a prouder achievement in medicine of this year 1892 than all the additions to its Pharmacopœia or all the refinements of its therapeutic theories.

But the duty of the physician does not end with supporting and contributing to medical journals, and with encouraging reform in medical education. He should be in active fellowship with one or more medical associations, but he should not confine himself to these. The physician should be the first citizen of the commune, the peer in education and culture of the highest, and a leader in all the sociological and political movements of the day.

Dr. Gihon then alluded to the strange lack among the profession of hero-worship, when the heroes are its own. He thought it would be unpardonable to neglect to give due credit to the bacteriologists.

The orator then referred to a paper read by Dr. Sternberg at the last meeting of the Association of American Physicians in Washington, in which were detailed the results of recent discoveries concerning anti-toxines, which suggest the possibility of a new departure in the specific treatment of infectious diseases.

Officers for the Ensuing Year.—The Committee on Nominations has selected the following candidates: Dr. Hunter McGuire, of Richmond, Va., *President;* Dr. H. O. Walker, of Detroit, *First Vice President;* Dr. H. Brown, of Kentucky, *Second Vice-President;* Dr. H. Janes, of Vermont, *Third Vice Presiaent;* Dr. Jesse Hawes, of Greeley, Col., *Fourth Vice-President;* Dr. R. J. Dunglison, of Philadelphia, *Treasurer;* Dr. W. B. Atkinson, of Philadelphia, *Secretary;* Dr. Montgomery, *Assistant Secretary;* Dr. George W. Webster, of Chicago, *Librarian.* To fill vacancies on the Board of Trustees: Dr. Alonzo Garcelon, of Lewiston, Me.; Dr. Leartus Connor, of Detroit; Dr. Perry H. Millard, of Minnesota, and Dr. Patterson, of Washington. Members of the Judicial Council: Dr. N. S. Davis, of Chicago; Dr. John Morris, of Baltimore; Dr. H. D. Didama, of New York State; Dr. John B. Roberts, of Philadelphia; Dr. A. M. Emmert, of Iowa; Dr. W. T. Briggs, of Nashville, Tenn.; Dr. C. W. Voorhes, of Coldwater, Mich.; Dr. W. E. B. Davis, of Rome, Ga.; Dr. A. Morgan Cartledge, of Louisville.

Milwaukee was chosen as the next place of meeting.

SECTION IN PRACTICE OF MEDICINE.

(By Telegraph to the Medical Record.)

First Day, Tuesday, June 7th.

The Relations of Bacterio-chemical Results to Prophylaxis and Therapeutics was the title of a paper by Dr. Robert T. Edes, of Jamaica Plain, Mass. The great progress of the year had been along the line of investigating the poisons which are the result of germ activity, their nature, and their effects. It has been shown that many germs produce an alkaloid, and as well a poisonous albumin or albumose. Fever itself was undoubtedly the result of some such substance which acted by its influence on the heat-centres.

Researches also had recently been carried on regarding the absorption of nitrogen by plants from the air. It had always been supposed that this element was derived from the soil in plant formation; but certain plants, especially the bean family, can grow in a soil entirely devoid of nitrogen and yet form nitrogenous compounds. This property seemed to depend on the presence on the plant, or rather on its surface, of a certain bacillus.

Another most important topic which had received much attention during the year had been that of immunity. We had come to believe that much depended on the condition of the blood, either its fluid elements (possibly blood-germs) or the leucocytes, more probably the latter. Furthermore, the products of germ-action (toxine) seem, after reaching a certain degree of strength, to inhibit their own activity. An analogous illustration was seen in the power of a certain percentage of alcohol to check fermentation, though it was a product of the latter. Such a method was as yet unavailable in the human system. Koch's tuberculin was not to be condemned as a failure. It was an attempt along a line which is likely soon to witness a great and fruitful development. Closely allied to the doctrine of immunity is that of resistance to disease. We do not know why some persons can meet with impunity an exposure to which others would quickly succumb. Animals, if starved, will be overcome by an amount of bacterial poison without effect if they were properly nourished; and furthermore, over-feeding will enable them to withstand a much greater dose of the disease-poison. There is in each system a certain protective element which comes in contact with the product of our usual contagious diseases and destroys the toxines of the latter, thereby protecting the system from the further inroads of the same kind of poison, but rendering it more liable to succumb to other kinds. So far as treatment was concerned, emphasis was to be laid on two special points. There was great danger from the flesh and milk of tubercular animals. There was not, in the writer's opinion, much risk from mere association with phthisical patients. The latter should be cautioned against scattering their sputa around. Special attention should be paid to nutrition and climate. So far as the latter had reference to lung cases, a lofty, dry place was preferable, because the air was relatively free from germs. It also acted as a general tonic, and the increased pulmonary activity it occasioned was in itself a favoring circumstance.

All of these questions had to be looked at from a different stand-point so far as the scientific worker was to be compared with the chemical student. The problems of the sick-room were not those of the laboratory. It was difficult to free clinical work from personal errors, but we should faithfully report our results, good or bad.

Immunity.—Dr. Kinsman, of Ohio, gave an account of some experiments which had been made in that State with reference to hog cholera. Immunity is, he thought, only a relative term. Our ideal should be absolute protection. Our present trouble is that our doses of remedies strong enough to kill the germ or inhibit the products of its life activity are also strong enough to harm the patient. In several of the Western States attenuated cultures of the hog cholera-germs were given to animals, with good results. They could then be pastured in fields

and thrive where uninoculated animals speedily died. The culture medium used in the experiments detailed by the speaker was sterilized human urine. The fluid inoculated was diluted to about one-sixth of its original strength, the cultures being kept at the blood temperature, and the sterilization of the urine being accomplished by the usual methods. The fact was that in many of our investigations we did not know exactly what the cause of disease was, and hence, while we approximated toward perfect immunity, we could not quite reach it.

Dr. W. J. Scott, of Cleveland, O., thought there was some doubt as to whether in our dilution by attenuated virus we are not also altering the nature of the poison, so that we have to deal with a morbific principle different from the one which is the result of the first generation of germs. As regards the effect on the body temperature, anything which disturbs the relations of the system and the products of nutrition and waste will cause increased chemical activity, and that we know is always a source of heat.

Dr. Denison, of Colorado, had recently received a letter from Koch, of Berlin, in which the latter disclaimed ever having admitted that tuberculin was a failure. The speaker himself had unbounded faith in its future. He also alluded to recent experiments made with a piece of the thymus gland as a culture fluid. Tetanus germs had in fourteen days been rendered from three to five thousand times less powerful than the original cultures.

Dr. Greenwood, of Kentucky, did not believe that hog cholera was altogether a contagious disease. It would skip about from one farm to another in a given locality, while animals on intervening farms were not affected. In one instance live hogs ate the bodies of their kind who had died of the cholera, and the disease was soon checked in the entire drove.

Dr. S. P. Kramer, of Cincinnati, reviewed the work which had been done by German observers during the past year with reference to immunity, laying special stress on the nature of the "anti-toxines" developed by adding to the blood of an animal one of the peculiar albumoses produced by bacterial action. If we could isolate the latter by injecting it, we could with the aid of the union with the blood cause immunity. In these experiments on animals there is always danger that the attenuation product may revert to its original type, and so offer no stay to the ravages of disease. It was interesting to know that if goats were thus rendered immune to tetanus, the immunizing principle appeared in the animals' milk.

Etiology of Specific Disease.—A paper with this title was read by Dr. R. French Stone, of Indianapolis, Ind. It was a historical review of the various theories which have prevailed in times past with reference to the exact nature of specific disease. He took strong ground against the wholesale acceptance of the present products on the germ theory of disease.

The paper was discussed by Dr. Hoyt, of Detroit.

Recent Investigations of the Etiology of Diabetes Mellitus was the title of a paper by Dr. S. P. Kramer. No less than twenty-seven theories had been put forth with reference to the cause of diabetes; it had been found that the pancreas was at fault in fully one-half of all the cases. The removal of the organ in animals was always followed by the malady. If it was partially removed, the disease remained absent, providing one-tenth of the original bulk of the organ was left *in situ*. Ligature of the duct gave negative result. These results seen in dogs were duplicated in cats and swine, but not in birds. In dogs in whom the malady had supervened after the removal of the organ, if they were fed on pancreas no relief ensued, but the latter did follow if bits of the organ were transplanted back into the anterior abdominal wall; if they were fed on glucose it was used up in the system and none excreted, but not so with condose. As the result of a long series of experiments, Dr. Kramer expressed the belief that the organ supplied to the blood a glycolitic ferment by which the sugar in the blood was destroyed, but if the viscus was removed the absence of the ferment, which resided chiefly in the white cells of the blood, caused the glycosuria. He did not offer this as an exclusive view, the ferment was found in the blood at its maximum four or five hours after removal from the animal. Normally, the sugar of the blood combines with some albuminous principle therein for the general benefit of the system. In diabetes this does not take place.

Hepatic Abscess.—Dr. George E. Fell, of Buffalo, related a case of hepatic abscess in diabetes. The pus eventually opened into the gut and the diabetes disappeared. This was evidence, in his opinion, that lesions of the pancreas were not the only factor in etiology.

Dr. S. Solis-Cohen, of Philadelphia, quoted the division of diabetics by a recent French writer into thin cases and fat cases. The pancreatic cases were in thin people, but not in the fat people. There was still another form, related in some way to the uric acid diathesis. Moreover, nowadays, the polydipsia and polyuria were more dreaded than the glycosuria. There was a malignant combination of the two former causing fatal result even with no sugar. There was probably a group of cases here alike clinically, but differing in their etiology.

Influenza.—Dr. John E. Link, of Terre Haute, Ind, read a paper on "La Grippe," in which he took the ground that the disease was not a germ disease, but one spending itself principally on the pneumogastric centre in the medulla. He thought that all the various aspects of the malady could be explained by this view. He had noted many cases with a peculiar paleness of the face, a milky whiteness of the tongue, and great prostration, with occipital pain, even before any active grippal manifestations came on. They had all yielded promptly to quinine and opium, but after recovery, if the former drug was stopped too quickly, they suffered severe relapses. Dr. Link doubted whether there were any real inflammatory or congestive properties belonging to true grippe. He believed that we might have an inflammatory neurosis, say of the lung and bronchial tissue, with abundant serum, but it was not pneumonia. In many cases the outpouring of serum into the air-cells led to the death of tissue and abscess formation. The physical signs were not like those of pure pneumonia. There was a loud, moist râle in addition to the crepitation of pneumonia.

A Modified Form of Continued Fever following the Epidemic Grippe, was the title of a paper read by Dr. John H. Hollister, of Chicago, Ill. This disease had seemed to increase the severity of all our endemic maladies. He had observed, following the epidemic, many cases of continued fever which had been admitted to hospital classified as typhoid. He soon began to doubt the correctness of the diagnosis. A study of fifty cases had afforded the following data: No common cause could be assigned. Previous history was negative. Some had had grippe, but the majority not. The prodroma lasted four days, with extreme muscular soreness. The onset was gradual, no chill being noticed, but the fever was continuous without intermission. The average duration was twenty-three days. Relapses were common, but could be attributed in many cases to dietetic errors. There were no head symptoms or coma, and no subsultus. In four cases there was profuse sweating, lasting over ten days. The stomach was not troublesome. Secretions were all diminished, and there were not cutical discharges. The mouth was rarely dry, tongue not fissured, and no sordes. The dorsum was milk-white. There was no tympanites or abdominal tenderness; no peritonitis, while the bowels were bound up. In only three cases did the stools suggest typhoid. No bacteria were found in the stools. The urine did not respond to the Ehrlich test, nor were any albumin, sugar, or casts found. There was no rash. Dr. Hollister did not believe that the disease was typhoid. In treating the cases main reliance was placed on sponging and packs. Three cases died, one from pneumonia and two from exhaustion. No intestinal lesions were found at any of the autopsies.

The paper was also discussed by Drs. Didama, of Syracuse; Cronyn, of Buffalo; Hemenway, of Illinois; Davis, Jr., of Chicago, and Wilson, of Michigan.

SECOND DAY, WEDNESDAY, JUNE 8TH.

Positive and Negative Medication.—A paper with this title was read by DR. BEDFORD BROWN, of Alexandria, Va. More or less deaths occurring in practice are due to the incompetency of physicians, the incurable nature of given disease, careless nursing, and the adulteration and substitution by dishonest pharmacy. A point of primary importance is to assure ourselves of the solubility in the stomach of the remedies we use. On this account pills and capsules are often objectionable. Not infrequently they pass through the system and are found unchanged in the dejecta. Furthermore, in all fevers and in many other states the solvent power of the secretions is greatly lessened. Dr. Brown uses only glycerine or honey as excipients for pills, and gums of all kinds are open to the same charge of insolubility as sugar and gelatine. Often we must use solutions, and if these are not well borne, resort to rectal medication. Here mucilage offers itself as a proper vehicle for quinine when the latter remedy is indicated. The cold bath in high temperatures may often further and increase the absorptive power of the system. Moreover, one should see to it that when we order infusions and decoctions, the latter are made out of pure materials. We should avoid cheap drugs, because that very cheapness is a confession of inferiority.

DR. H. D. DIDAMA, of New York, used tablets and wafers entirely to the exclusion of pills. It was evident that dispensing by the physician was growing in both professional and popular favor.

DRS. WILSON, of Kansas City, and HERRICK, of Cleveland, also commended the practice alluded to.

The Relative Inter-dependence of Organs in Health and Disease was the title of a paper read by DR. HERRICK, of Cleveland, O. He divided the various organs into three groups. In the first were the osseous, connective, and cellular tissues. In the second the circulatory, muscular, nervous, and reproductive organs; and in the third the organs of secretion, of digestion, absorption, assimilation, and excretion. The first was entirely passive, the second was active in securing the alternate end of life, and the integrity of the third was necessary for the functions of the second to be performed in a proper manner. The third group had for its alternate end the transformation of food stuffs into blood.

A Case of Amœbic Dysentery was reported by DR. E. P. GERRY, of Jamaica Plain, Mass. It had until recently been believed that this disease was confined entirely to tropical countries, but the recent investigations of Osler, Councilman, and Löffler had shown that it was not unknown in northern latitudes. His patient was a single woman, aged twenty-five, who had been anæmic for a year. She began to have discharges from the bowels of blood-tinged mucus containing whitish lumps, and mixed with more or less brownish fecal matter. These were at first three or four in number daily, but later increased to eight or ten. Tenderness appeared in the right iliac fossa, and finally more or less tympanites with fever and some sweating. The discharges were painless, and appeared not to be affected by the nature of the injected food. The use of various astringents and zinc sulphate solution injections caused periods of remission. At a later period there was tenderness and thickening along the course of the ascending colon, with a hard lump to the right of the umbilicus and about midway between the costal cartilage and the anterior superior spine. There was no tenesmus. The stools were examined and numerous amœbæ dysentericæ were found. They were rounded or oval, with a diameter six or seven times that of a leucocyte. As the fæces had to be brought some distance for examination, the parasites were always motionless, even on a hot slide. The greatest relief was afforded by high rectal injections of quinine solutions 1 to 5,000. The patient finally succumbed to grippal pneumonia, and the autopsy showed the typical lesions described by Osler and Councilman.

DR. HERRICK, of Cleveland, doubted whether the amœbæ were always the cause of these symptoms. These might be often referred to disturbances in the hepatic circulation.

The paper was also discussed by Dr. Messer, of Cincinnati.

Retained Fæces was the title of a paper read by DR. W. D. CHRISTOPHER, of Chicago. Bowels apparently normal, often contained scybalous masses which could be brought away only by intestinal irrigation. These masses may cause peritonitis, local or general, typhlitis, and appendicitis. They may give rise to certain catarrhal states, in which the bacterium coli communis, ordinarily harmless, becomes exceedingly virulent. Of the poisons engendered by fecal retention a small amount may be destroyed by the liver, but if this organ is impaired or the dose of the poison is large, we may have the "stercoæmia," "stercoæmie" of the French writers. In using rectal injections the water should be warm. Several trials may be necessary before much fecal matter comes away. Iron and belladonna are a useful combination to enable the bowel to retain its healthy state.

DR. N. S. DAVIS, JR., of Chicago, believed that fecal retention was common in those whose bowels moved daily; these evacuations were merely nature's overflow and were utterly insufficient to empty the gut.

The paper was also discussed by several of the other members present.

The Transmission and Behavior of Typhoid Poison as Observed in Country Practice.—DR. LEWIS N. DAVIS, of Farmland, Ind., read a paper with this title. It was generally believed that water is the main, if not the only, channel by which the typhoid poison was conveyed, and that the germs in the stools were passive when they left the body of the patient; but in country practice there were many evidences to be had that the disease was contagious, and that it was conveyed by the air; also that the poison was virulent as it left the body. Several epidemics were quoted in support of this view.

The paper was discussed by DR. CHAPIN, of Michigan, who thought that the views of the writer were correct, and by DR. J. H. MUSSER, of Cincinnati, who did not think his conclusions were sound. He himself believed in transmission of the poison through drinking-water.

Catarrhal Gastritis was the title of a paper read by DR. HAROLD N. MAYER, of Chicago. The term dyspepsia should be given up. It is a symptom and not a disease in itself. In chronic catarrhal gastritis we have too much mucus with a resulting impairment of digestive power. Out of 118 cases of gastric trouble, he had found 17 of uncomplicated gastritis (chronic) giving the usual symptoms in different combination and varying severity of epigastric pain, nausea, and vomiting. Less common were fulness, coated tongue, eructations, anorexia, vomiting, constipation, etc. As to etiology, the trouble is more common in males and users of tobacco, alcohol, and excess in iced drinks. The duration varies from months to years. The treatment is one of diet and but little medicine. Lavage had in his opinion but a limited value, because patients would not submit to it. He is in the habit of directing patients to drink from eight to sixteen ounces of very hot solution of bicarbonate of soda (ten grains to the pint) twenty minutes before eating. This removes the mucus and enables the food to come into direct contact with the mucous membrane of the stomach. Thereby normal peristalsis is set up. As to diet, a trial meal of lean meat and buttered bread should be given. As the patient improves, oysters, eggs, etc., can be added. Pastry should be avoided. Bismuth, cereum, nux vomica, and tonics can only be adjuvants; pepsin is good where there is atrophy of the

gastric tubules or organic structural changes; also in anæmic cases.

Dr. Stocton, of Buffalo, N. Y., regarded lavage as especially good for diagnosis, if not for treatment. Many of these cases are due to excess of hydrochloric acid, and such a condition must, of course, largely determine the nature of the diet. The stomach contents are often too long retained in that organ, and imperfectly digested, even where no symptoms are complained of.

Dr. Lyon, of Philadelphia, had found an absence of hydrochloric acid in many of these cases.

Dr. Hare, of Philadelphia, believed that the pepsin and soda mixture is often of service, because the acid required to enable the latter to act overcame the alkaline effect of the soda and aided digestion. We make the mistake of prescribing too much pepsin and too little acid. Bitter tonics, he believed, did more harm than good. Intestinal digestion was more powerful than gastric; hence we should give food rapidly passing into the bowels.

The paper was also discussed by Drs. Scott, of Cleveland; Porter, of Michigan; and Davis, Jr., of Chicago.

The Vertigo of Arterio-Sclerosis was the title of a paper by Dr. Archibald Church, of Chicago. This condition of vascular structure is the forerunner of true atheroma. The vertigo is often referable to dietetic errors and to various stomach disorders. It can be occasioned by suddenly rising from a recumbent position. It often is accompanied by staggering and in temporary aphasia, but not, in the writer's experience, by actual loss of consciousness. Patients frequently obtain temporary relief from baths, waters, etc. It is important to recognize the condition early, for, unless checked, it may eventuate in fatal cerebral hemorrhage. The diagnosis is often confounded with that of Ménière's disease (as the cases of vertigo often have an inclination to rotary movements, etc.) and arnal vertigo. As to treatment, he had found that iodide of potash (thirty to ninety grains daily) give the best results. Amyl nitrate and nitro-glycerine give but temporary relief, and their disagreeable effects are often more complained of by the patient than the disease itself.

On Some Non-valvular Heart-murmurs was the subject of a paper by Dr. N. S. Davis, Jr, of Chicago. Non-valvular heart murmurs may give the same physical signs as valvular ones, the same changes also in the size and position of the heart. Not infrequently we have cough, dyspnœa, vascular disturbances, œdema, urinary changes, etc. He related the histories of several cases in which the autopsy showed the cause of the murmurs to be old and tenacious decolorized clots in the ventricles and entangled among the chordæ tendinæ. In one case there was an old calcified plate of connective tissue (the result of a former pericarditis) in pericardium. The murmur in this latter instance was probably due to irregular muscular contractions in the ventricular walls, causing various eddies in the blood-current. Anæmia also caused murmurs not distinguishable in their physical characteristics from those of valvular lesions.

The Importance of Position in Examination for Diseases of the Heart.—The paper was read by Dr. O. B. Campbell, of Ovid, Mich. The anatomical relations of the diaphragm are fixed, but the apex may be bagged down from change of size of the heart. If the patient bends forward the apex-beat becomes more diffused transversely, but not vertically. He recommended recumbency in examining for cardiac disease, as he believed that the sounds became thereby more distinct. Out of 100 cases the murmur became more distinct in the recumbent position in 78; more distinct in the upright position in 6; not heard standing but developed on lying down, 4; unaffected by change of position, 12.

These papers were discussed by Drs. Kennedy, of Michigan, and Newcomb, of New York.

A paper on nutrition was read by Dr. Myrix J. Crouch, of Union, Ky.

SECTION ON SURGERY AND ANATOMY.

(By Telegraph to the Medical Record)

First Day, Tuesday, June 7th.

Address of the Chairman.—Surgery of the Gall-bladder and Ducts.—Dr. J. McFadden Gaston, of Atlanta, Ga., referred to his experiments upon dogs, reported elsewhere, and considered the literature of the subject down to the present time. Surgery of the gall bladder was chiefly confined to the measures indicated in occlusion of the common duct. Where the duct was occluded by other cause than the impaction of stone, it was generally necessary to remove the gall-bladder. The dissection of its upper portion from the lower was a difficult procedure, and not unattended with risk, and he was accustomed to leave this portion of the bladder *in situ*. All obstructions by stone should be removed, and an opening only externally should be regarded as but a temporary expedient. Ultimately the gall-bladder should be united with the intestine. A biliary fistula established preferably with the duodenum. This was most desirable, though one with the jejunum might be hardly less useful. But with the colon the result was not satisfactory.

Obstruction of the Cystic Duct.—Dr. W. H. Myers, of Fort Wayne, Ind., reported a case, and said that stones might be present in the gall-bladder without pain, and that pain might be present without jaundice, but that when a calculus becomes impacted in the cystic duct the pain is always severe. The paroxysms of pain usually come on within an hour or two after the patient has taken food, and appear to be due to the natural effort of the gall-bladder to empty itself by the contraction of its muscular coat. In the case reported several stones were removed, and the opening in the bladder then stitched to the abdominal opening. Very little bile appeared on the dressings, but the fistula remained open. In similar cases the author would advise removal of the viscus.

Peritonitis from Gall-stones.—Dr. W. E. B. Davis, of Rome, Ga., said that the risk from the rupture of the gall-bladder or ducts, and the extrusion of a gall-stone into the peritoneal cavity, was from infection of that cavity by septic material from the gall-bladder rather than from the bile itself. Bile is not a septic fluid; it only causes peritonitis by its irritating quality, and only does this when in large quantity at the time of the accident. Poured out slowly, it sets up protective inflammations, the adhesions from which cut it off from the general peritoneal cavity. Peritonitis from the escape of gall-stones is very rare, and when it does occur it is usually due to the septic quality of the accompanying fluid. In his experiments upon dogs he had found that the bile did not excite peritonitis when allowed to escape into the peritoneal cavity. He had further found that packing the wound with iodoform gauze, left in three days, prevents peritonitis. He, of course, recognized the fact that the danger of peritonitis was greater from the presence of a gall-stone than in experimental work where only pure bile was allowed to escape. The chief point which he wished to make was the protection given by packing the part with iodoform gauze.

Discussion.—Dr. A. Van Derveer, of Albany, N. Y., said that he would not feel safe in leaving the anterior wall of the bladder as advised by Dr. Gaston. He then narrated a case from which he had removed sixty-four calculi. The external fistula remained open. Sometime later, when the patient died of tuberculosis, he found that the duct was closed. He favored medicinal treatment for a time, but if a case grows worse under such treatment he would then operate. In his experience, jaundice is absent in the majority of the cases of the paroxysmal; pain is the main symptom for which the surgeon must look. The chief danger in delaying the operative measures is the risk of perforation and a resultant septic peritonitis. Before closing the external opening, one must make sure that there is an opening into the intestine.

Dr. Marcy, of Boston, reported four unpublished cases, and advised early operation.

Dr. J. F. W. Ross, of Toronto, thought that one of the greatest risks was from the puncture of the intestine by the needle in suturing, and the consequent escape of the intestinal contents into the peritoneal cavity.

Dr. Ferger, of Chicago, spoke of inflammation of the gall-bladder without obstruction to the flow of the bile, and believed that two operations to relieve the condition was a safer procedure than to attempt all at a single sitting.

Dr. Allen, of Cleveland, reported the case of a patient who had refused operation, and who died from the pain arising from the plugging of the cystic duct.

Gunshot Wound of the Liver and Stomach—Laparotomy—Recovery.—Dr. James T. Jelks, of Hot Springs, Ark, reported a case where the ball entered the left of the spinal column, just below the lower border of the ribs. The patient when seen had vomited much blood, and was in a state of shock. An opening was made from the ensiform cartilage to two inches below the umbilicus. Again the patient vomited blood, and the stomach with the ball was thrown out of the abdominal cavity into the operator's hands. Careful examination revealed no wound of the stomach, but a wound still bleeding was found in the posterior border of the liver. This was packed with iodoform gauze, the cavity washed out, the intestines returned with great difficulty, and a glass drainage-tube having been inserted, the wound was stitched up. Before union was perfect the abdominal wound broke open during a fit of coughing, and a knuckle of intestine protruded. This was replaced, and the patient went on to a good recovery at the end of three weeks.

Rupture of the Liver.—Dr. Ferger, of Chicago, reported a case of rupture of the liver from a fall through an elevator shaft, where he found, a year later, that much hemorrhage had taken place without evil results.

Dr. Gregory, of St. Louis, thought that unless the plugging of the liver wound in Dr. Jelk's case had saved the patient's life, he would have lived without any operation whatever.

Dr. Thorn, of Toledo, reported a case of laceration of the liver left without treatment, where death occurred from loss of blood.

Dr. B. A. Watson, of Jersey City, said that he had often seen laceration of the liver in his experimental work upon animals, in which recovery had taken place after even a very large hemorrhage.

Dr. Griffith, of Kansas City, said that shock was not always present in these cases. When it was absent, what indications have we for operation if we are not to operate in all cases?

Dr. Walker, of Tennessee, reported a case in which there was shock at the time when he was called to see the patient, who declined operation, but who nevertheless died three hours later from hemorrhage.

Eight Cases of Œsophageal Stricture.—Dr. D. S. Campbell, of Detroit, reported seven new and one old case of œsophageal stricture treated by electrolysis. All made good recoveries.

Second Day, Wednesday, June 8th.

The Late Manifestations of Appendicitis and Their Treatment.—Dr. Dudley P. Allen, of Cleveland, reported six cases selected for the purpose of illustration and discussion, showing the different complications and dangers arising in cases which had escaped the primary attack of appendicitis. The cases cited included enormous collections of pus in the side, secondary abscess in the liver and lung, abscess involving the psoas muscle, extensive secondary abscesses of the thigh, and long-existing circumscribed abscess opening repeatedly into the intestine. The writer related his own experience in support of the fact of the dangerous character of appendicitis when left to follow its natural course, and was fully convinced of the correctness of the opinion held by American surgeons favoring operation in suitable cases, as against the more conservative view of a large number of European surgeons, who favor leaving the disease to medical treatment. The writer had operated upon a series of cases in which the patient had supposed himself to have suffered from repeated attacks of intestinal colic and had considered the beginning of the attack which finally led to operation of the same nature as those preceding, and the observation was well established that a large number of cases of appendicitis resulting in operation or in death had been preceded by other attacks of a less serious nature.

The question of the employment of salines as opposed to the opium treatment was discussed, more particularly in its reference to primary attacks of appendicitis than to those of a more marked nature, and, though the dangers of salines were recognized, a distinct advantage was claimed in that in certain cases when administered, they relieved the extreme tympanitis which sometimes occurs, rendering the operation difficult and seemingly destroying the patient after a successful operation had been performed, through the paralysis of the intestine, due to extreme distention. The extra-peritoneal operation was favored, where feasible; but, since by this method a certain proportion of small abscesses and perhaps foreign bodies might be overlooked, the trans-peritoneal method was advocated whenever necessary to the discovery of the seat of disease. As to the time of the operation, although its danger was recognized, and many surgeons hesitated in undertaking so serious an operation when the disease was seemingly quiescent, it was advised not to delay it too long in cases where the difficulty was recurrent, since the danger from recurrent attacks was considered greater than that of operation.

Desemoid Tumors of the Abdominal Walls.—Dr. Nicholas Senn, of Chicago, said that he had been unable to complete his work on the paper announced to be read by him, and begged to make a few remarks. He narrated a case in which the symptoms all pointed to a dilated stomach from cicatricial contraction and stenosis of the pyloris. On operation he found the stomach enormously dilated, but with no cicatricial stenosis at the pyloris. There were, however, many adhesions, especially in the neighborhood of the gall bladder, in which viscus he found a gall-stone. This was removed, the adhesions separated, and the patient recovered, with complete relief to the gastric symptoms. It was to be noted that the patient had no symptoms pointing to the presence of gall-stones. Another case had presented the symptoms of acute intestinal obstruction pointing to the lower part of the small intestine. On operation a gall-stone, the size of a walnut, was found twenty inches above the ilio-cæcal valve.

Dr. Senn believes that stones of this size always make their entrance into the intestine by perforation of the gall-bladder and local peritonitis, rather than through the normal biliary passages. He then narrated four cases of desemoid tumor of the abdominal wall, upon which he had operated during the past two years. These tumors originate from the mesoblast, and arise from the sheath of some one of the abdominal muscles. They resemble a fibroma in structure, with some of the characteristics of sarcoma or, at least, a semi-tendency to malignancy. The four tumors were all in child-bearing women, and were perhaps due to trauma, such as the laceration of the sheath of one of the abdominal muscles. They grow faster than the ordinary fibroma, are less distinctly separated at their margins from the surrounding tissues, and internally are often attached to the peritoneum, necessitating an intra-peritoneal operation. The gap in the peritoneum in such cases is closed by making use of the omentum. Diagnosis between intra-mural and intra-abdominal tumors is often very difficult.

A specimen tumor was shown, and a drawing of its microscopic appearance.

Intestinal Lesions in Abdominal and Pelvic Surgery.—Dr. Joseph Price, of Philadelphia, said that it was not his purpose to consider in detail all of every part of abdominal and pelvic surgery so far as their manifold relations are concerned, but only to present the leading features of the part these intestinal lesions play in making the pathology of these complaints complex, and afterward to consider the best way of dealing with them for the good of the patient and the comfort of the surgeon. Aside from the conditions brought about by purely pathological processes, past operative complications, due for the most part to hasty, ill-advised work, or unfinished operations, are at the bottom of a deal of surgical complications that would not otherwise exist. Such operations are the worst that surgery has to deal with, because they involve both old and new inflammations together with the effacement of anatomical landmarks that would otherwise exist. In the same category may be placed complications due to failure to drain and the use of irritating solutions. If we do not drain, the product is likely to go on to organization, or use fluids that encourage inflammatory peritoneal adhesions, it is evident that we are at once on both horns of the dilemma. Meddlesome interference with what would otherwise be natural drainage, by the introduction of quantities of gauze into the pelvis, must of necessity produce adhesions. The less the peritoneum is finally meddled with after the completion of an operation, so much surer is the absence of damaging adhesions. In separating parts and organs joined by adhesions the finger-tips must be used instead of the knife. The complication arising by getting rid of adhesions is hemorrhage. This must not be controlled by ligatures except exceptionally, but by packing and by flushing of the bleeding cavities with very hot water. In all suppurative and inflammatory abdominal and pelvic disease the line of treatment should be as follows: First, remove the diseased organs, then carefully flush the parts free from *débris*, and lastly drain carefully.

The Comparative Merits of Inguinal and Lumbar Colotomy.—Dr. J. Mathews said few, if any, surgeons of this country longer performed lumbar colotomy, preferring the inguinal operation, holding that the first operation had become practically obsolete. The speaker, however, did not consider the inguinal operation to be easier or safer, since the inguinal operation is intra-peritoneal, while the lumbar is extra-peritoneal.

The Significance of a Hernial Sac.—Dr. E. H. Gregory, of St. Louis, said it is of the greatest importance to diagnosticate a hernia before a sac is formed; when a sac has been once formed the patient is liable to any or all of the calamities, such as incarceration or strangulation. Palliative treatment consists in the permanent evacuation of the sac; the radical cure consists of ablation of the sac. The early diagnosis of hernia, and the prevention of the formation of a sac, seems to be the only hope of a perfect result.

The Treatment of Injuries of the Abdomen not Requiring Surgical Operation.—Dr. J. Schneck, of Mt. Carmel, Ill., said that injuries received above the umbilicus are of a much more serious nature than those below that point. This appears to be because the organs above the umbilicus are of much more vital importance than those in the lower portion of the abdomen. One of the most important effects to be aimed at in the way of treatment is to restore innervation. This is best done by the external and internal administration of heat. The internal administration of stimulants is of little or no use, but hot water is always of use, even if vomited, and the injection of hot water is always of use.

Emergency Work in Abdominal Surgery.—In the absence of Dr. Mordecai Price, of Philadelphia, Dr. Link, of Terre Haute, urged the importance of immediately following up of any wound in the abdomen, and the sewing up of any wound in the intestine by an ordinary sewing-needle, and such silk and thread that may be at hand, without waiting for a surgeon or the ideally perfect materials for such an operation.

Bassini's Method for the Cure of Inguinal Hernia Applied to a Case Complicated by Undescended Testicle.—Dr. Samuel E. Millikin, of New York, reported the case of a patient, aged eighteen, a machinist, who had been under careful observation for more than a year, with the hope of straining the hernia, at the same time allowing the testis to descend. The truss was worn day and night with but little improvement in the condition, and it was decided to perform the radical operation after the method of Bassini (a description of which will soon appear in the Record), at the same time attempt to anchor the testicle in the scrotum. The case illustrated well the fact that, although the testis and hernia had escaped into the internal rings when the patient was etherized, the sac had not been reduced. When the tendon of the external oblique muscle had been slit up after the above method, the testis was easily reproduced by making traction on the vas deferens, a loop of which remained in the canal firmly adherent to the tunica vaginalis. The sac being congenital, it was necessary to cut it off one inch above the testes and reform the tunica vaginalis. Three catgut sutures were passed through this newly formed tunica and the bottom of the scrotum, simultaneously, for fixation. The inguinal canal being reconstructed, the wound was dressed as a single herniotony.

Hernia, Operable and Inoperable.—Dr. Thomas H. Manley, of New York, reviewed the literature of the subject, and in epitomizing the subject and considering the question of the treatment of hernia in a general way, said: 1. That inasmuch as no operative scheme yet devised will always effectually remove the causes of every species of hernia, in consequence of this a permanent cure is out of the question in certain cases. 2. The radical cure of hernia may be regarded as one of the most satisfactory operations of surgery. The fact that the disease often relapses constitutes no valid objection against surgical intervention, for this is commonly the case in the majority of operations performed on the human body. 3. A radical operation for a non-strangulated hernia which gives no serious inconvenience is not a justifiable procedure, and should not be encouraged unless there are pressing reasons for it. 4. Hernial operations should not be performed in the extremities of age. 5. Unless there are especially contra-indicating factors in given cases, inguinal hernia in women should always be treated by a radical open operation. 6. As a rule, all operations on reducible unincarcerated hernia are radically curative, though the disease commonly relapses. 7. Every operation for strangulated inguinal hernia should always include such additional steps as will effect thereafter a complete obliteration of the inguinal canal. 8. Very large old herniæ in any of the abdominal regions are not operable, except in case of strangulation.

A Few Points on the Management of Strangulated Hernia.—Dr. W. B. Degarmo, of New York, said that the death-rate from strangulated hernia is far in excess of what it should be, and this on account of the faith placed in certain internal remedies, as well as owing to the exaggerated ideas as to the difficulties of operating for its relief. He believes that the physician who waits to test the merits of the various non-surgical methods is wasting valuable time, assuming grave responsibility, and probably sacrificing the patient's life. A warning is sounded regarding those cases where local pain is absent, and another is given respecting those where all symptoms have been masked by the use of the hypodermic syringe. It is believed that many lives have been sacrificed as a result of its use. Shock or collapse is considered a symptom of the gravest importance, indicating the necessity of very prompt surgical relief. Medical treatment is believed, on the whole, to be unreliable, and in many instances injurious; as a means of reducing hernia no reliance whatever should be placed in it. The causative action of mus-

cular spasm is not believed in; among external applications only one is commended, and that is (after Frinkelstein), of pouring a small amount of sulphuric ether over the tumor every few minutes, the parts being exposed to the atmosphere to favor rapid evaporation. This is recommended only in the early stages, before the vitality of the parts has been impaired. "Taxis," as ordinarily performed, is condemned, and a method of traction and compression is described, its object being to lengthen out the neck of the tumor, relieving by compression the engorged blood-vessels and imprisoned fluids and gases. Anæsthetics purely as a means of reducing hernia is not commended, although careful manipulation, under their effect, should always be used before proceeding to the operation; aspiration is not looked upon with favor, except in some very rare cases. Regarding operations, it is believed that the Emly operation is one of the most simple in surgery, and that it should always be done early. Waiting for fæcal vomiting belongs to the (surgical) dark ages. It is believed always safer to open the sac and examine contents. Numerous aseptic silk ligatures are recommended in amputating masses of omentum, instead of tying off with one ligature of catgut. If the bowel is of dark chocolate color, but not necrotic, the application of hot compresses after cutting the constriction is advised. In gangrenous gut temporary artificial anus is believed to be the safer method for the patient. The use of methods for favoring permanent cure to follow operations for relief are strongly commended. The author has used silk exclusively in all hernia operations for four years, and since he has sterilized and prepared it himself has had no trouble about its coming out of the deep muscular tissues.

The Management of Gangrenous Hernia.—Dr. Joseph Ransohoff, of Cincinnati, cited the statistics of strangulated hernia during the past twenty years. Of these only fourteen per cent. were found gangrenous. Four cases were reported in detail. In two, operation was made by returning the suspicious area to the abdomen; these died. The other two were operated upon by dividing the constricting band, excision of the gangrenous portion, and returning of the healthy part to the peritoneal cavity; these cases recovered, and the writer discussed at length the steps of the operation and the logic by which this treatment might be expected to lead to satisfactory results.

Discussion of Hernia.—Dr. Marcy, of Boston, after discussing the subject at considerable length, summed up, as essentials for operation, the following: 1, asepsis; 2, resection of the sac; 3, restoration of the obliquity of the canal in inguinal hernia in the male; 4, closure of the wound by means of buried tendon sutures; 5, coaptation of the skin by a blind buried suture, and sealing with iodoform collodion, re-enforced by a few fibres of cotton without drainage.

Discussion on Abdominal Surgery.—Dr. B. A. Watson, of Jersey City, said that the essential in all abdominal operations was asepsis. If we knew the condition of the peritoneal cavity as to asepsis, we should know when to operate and when not to operate. Not knowing this, he would be inclined to wait a little and be guided by the symptoms presenting, watching carefully and being ready to operate at any hour. He strongly deprecated the teachings of Dr. Link, that the family physician and the country doctor should operate in all cases at once without waiting for the arrival of the surgeon, holding that no one not familiar with the details of antiseptic work should attempt an abdominal operation, or, indeed, any operation whatever.

The following officers were elected to serve for the ensuing year: *Chairman*, Dr. James T. Jelks, of Hot Springs, Ark.; *Vice-Chairman*, Dr. E. T. Tappey, of Detroit, Mich.; *Secretary*, Dr. Liston Montgomery, of Chicago, Ill.

The Grady Hospital at Atlanta, Ga., has been completed and formally presented to the city.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Boston May 31, June 1 and 2, 1892.

First Day, Tuesday, May 31st—Morning Session.

Address of the President.—The Association was called to order by the President, Dr. P. S. Conner, of Cincinnati, who delivered the Annual Address as follows:

Fellows of the American Surgical Association: After a series of meetings at the national capital, it is fitting that our first journeying should bring us to a city with which is associated so much that is good and great in the history of our country—political, literary, scientific, and professional. Here, as a part of the University that, like Salernum of old, is *mater et caput* of the schools, was established the second medical school in the Western hemisphere, where for more than a century scientific medicine has been well and thoroughly taught. The Massachusetts General Hospital and the City Hospital have been the theatres of much work that has strongly affected the practice of our art the world over, and one of them will ever be remembered as the place in which "the problem of surgical anæsthesia was definitely solved." Their surgeons, learned, skilful, progressive, and inventive, by labors and teachings have honored themselves and the profession of which they have been so distinguished members. Not in America only, but everywhere, the profession has held and now holds in high esteem the medicine and surgery of Boston.

The active life of the Surgical Association, that began with the meeting in Philadelphia, embraces a ten-year period than which no other in professional history has been more strongly characterized by extent and accuracy of investigation, by scientific, judicious experimentation, by the discovery of important facts, by improvements in the technique of old operations, and by the introduction and general adoption of new procedures. In the study of the causes of disease, many master minds have been at work, and more positive knowledge has been gained than in all time before, so that in the bacteriological laboratories a new pathology has been worked out, in large measure revolutionary of both opinion and practice. Speculation and theory have given place to experimentation and fact, and the disease-producing influence of airs, of earths, of waters, have been found to lie in organisms that have been seized upon, separated, classified, and tested.

We can scarcely realize that it was only in 1882 that the startling announcement was made that tuberculosis was consequent upon the presence and action of a definite micro-organism, that could be isolated, cultivated, and inoculated; and that so short a time ago, the doubters were many, more, indeed, than the believers. In this single decade just passed, the fact has become universally acknowledged, the sceptics are now but professional curiosities; a new literature has been written, even a new language created in which strumous (except as a synonym of tuberculous) has no more place than phlogiston.

The long-known chronic affections of bones, of joints, of glands, of skin, have been shown to be in great measure the result of the presence and action of a bacillus, that everywhere and under all circumstances moves in one and the same way, and that a destructive one, though antagonized at every step by the healthy tissues (not seldom successfully), and subject more or less completely to the power of our art, directed to the procuring of the destruction or encapsulation of the germ, the removal of the infected tissues, or the taking away of the affected part. We can understand now why rest is of so much importance, why excision or erasion may be followed, as it so often is, by non-recurrence; why, on the other hand, in spite of, or even because of, operative interference, parts near or remote become secondarily infected.

The most important work, as it seems to me, that has

been done in connection with surgical tuberculosis, is that which has had for its object the finding out and properly applying a therapeutic agent which will destroy the organism and secure its expulsion from the body, or secure such condensation of non-affected tissue about it as shall form a wall around, and by encapsulation render it harmless. Far better will it be to administer generally or locally a remedy that will remove the bacillus or make it innocuous, than to do the most brilliant operation followed by the most rapid healing and recovery in large measure of functional integrity. The end is far from having been reached, but a long step in advance has been made, and the reviewer of the work of another ten years may find the result secured, and a non-operative, truly murative treatment in use. It is certainly to be hoped, though, that scientific medicine will not again have to pass through such an experience as that of a couple of years ago, the history of which will always be of much interest to the students of psychology and of mental epidemics.

Of the three wound complications which from the earliest times have been the bane of surgery, septic infection, erysipelas, and tetanus, the cause of only the first had been determined a decade ago, that of each is now known, and known because of the application to the tissues and fluids of those affected by them of the same methods of bacteriological investigation that had revealed the existence and life history of the pyogenic cocci. In erysipelas have been satisfied the three requirements of proof of bacterial origin, isolation, cultivation, and inoculation into the human subject, with resulting development of the original disease. Not a few of the long-time perplexing questions connected with tetanus have found answer in the discovered identity of its causative organism with the earth bacillus and in the anærobic nature of it. In every case that has come under my observation, so far as I can recall, except those associated with toy-pistol wounds, I am able to trace either direct contact with the naked ground, or probable, almost unavoidable, contamination of the wound with dust and dirt. In the toy-pistol wounds of the hands there is that exclusion of air and retention of fluid that are most favorable to the growth and activity of secretion of an organism that flourishes in the absence of oxygen, an organism that at the time of injury or later was located doubtless upon the dirty hand. Knowledge of the habits of the bacillus is sufficient of itself to indicate the treatment to be pursued, that tetanus may not supervene, to wit, thorough opening up and free drainage of the wound. Further, not only has the causative organism been found, but also it has been shown that there may be developed from it an antidotal chemical agent, the injection of which can produce immunity or act remedially upon a tetanic patient.

It is in the treatment of the diseases and injuries of the viscera and their envelopes that the greatest advances in our art have been made in these later years. Numerous and carefully conducted experiments upon animals, and operative procedures upon man, new, bold, and highly successful, have again and again been reported, and in the work that has been done our own Fellows have had no minor part.

The abdominal cavity, that for so long a time was an almost sacred territory, not to be invaded except under peculiar circumstances and for the relief of a very few morbid conditions, has, because of the secured protection against sepsis, become one of the more common fields of operation, done on account of wounds, of tumors, of obstructions, and of infective inflammation. Such operations not seldom have been, it may be believed, ill-advised, ill-timed, unnecessary, and harmful, entered upon by inexperienced men, whose eagerness to cut has found explanation in the fact that, in simple abdominal section few operative difficulties are usually met with and no dangerous hemorrhage is to be expected, the arresting of which might test the knowledge and skill of the operator.

Penetrating and perforating wounds of the hollow and solid viscera are no longer treated solely by opium and ice, with a resulting fatality truly appalling, but by section of the wall, suture of the wounds, ligation of the bleeding vessels, and antiseptic plugging, if necessary, of openings in the solid organs. The mortality-rate is still unfortunately very high; how high cannot be definitely stated, since the number of reported cases is yet limited and includes without doubt an undue proportion of successful results. Not a few of the deaths, it cannot be doubted, have been due to the delay, the incompleteness, and the imperfection of the operation, but many must be credited to the damage primarily done. Made by bullets of other than the smallest calibre, a pistol-wound of the stomach, of the intestines, of the mesentery, or of the liver, is likely to prove mortal from shock or hemorrhage even though treated properly and skilfully; and is almost absolutely certain to do so if fecal extravasation has occurred and septic inflammation has set in. It cannot be questioned but that wounds made by very small balls may be, and have been, recovered from without operative interference, and there is good reason for believing that in the absence of symptoms of active hemorrhage, such wounds will do as well or better without as with laparotomy; an operation, however improved its technique, is still an addition to the risk of the case. It is as unwise as it is untrue to declare that there are no dangers attaching to incision of the abdominal walls and exploration of the intestinal tract. But when it is a bullet of large size that has entered the cavity, the safety of the patient almost certainly lies, if anywhere, in speedy, thorough operation. It is hard to understand such statistics as those of Reclus, in which it would appear that, while without operation only thirty-five per cent. died, with operation the mortality-rate was from seventy-three per cent. to eighty-six per cent. That in three out of four, or six out of seven, patients thus wounded the result was a fatal one, may be believed, but that it should be so in only one out of four expectantly treated, is, to say the least, very remarkable. Not the smallest of difficulties often associated with these wounds, is the determination of the occurrence of penetration, which at times can only be through opening up and following down of the parietal wound. Inflation of the bowel with hydrogen gas, the earlier experiments with which were so brilliant and so captivating, will not always give the desired information, and may be positively detrimental to the best interests of the patient, as it certainly has been in certain cases already put on record.

The septic inflammations about the head of the colon, originating so generally in the appendix (which some would regard as an "intestinal tonsil," but may well be looked upon as a useless survival of a once important organ), have in the period under consideration been brought within the province of the surgeon, not as before at a late day, when the resulting abscess has fortunately come well forward toward the surface, but at an early stage, when by evacuation of the fluid with or without removal of the appendix, relief may be afforded and the patient be protected against the lethal effects of perforative peritonitis or perinephritic suppuration. The cases of acute disturbance in the region of the cæcum due to an over-loaded bowel or to the catarrhal inflammation, will find relief in the future as in the past in the therapeutic measures of the physician; but suppurative gangrene producing appendicitis, it has been proven, and that chiefly by the experience of our American surgeons, can with safety be treated only by the knife. Whether or not it is advisable to remove, during a quiescent stage, the appendix that has been the seat of repeated attacks of inflammation, is a question as yet unsettled.

A very cursory examination of the professional literature, home and foreign, for the past decade, would convince anyone that an immense amount of work, experimental and operative, has been done in the determination of the proper and most advisable methods of

treatment in cases of obstruction, acute and chronic, malignant and non-malignant, located in any part of the tract from the cardiac extremity of the stomach to the lower end of the rectum. Strictures have been dilated, affected areas removed, anastomosis secured, "cut-offs" established, new openings formed, with the result in favorable cases of effecting cure or affording relief. The technique of the older operations has been much improved, modifications have been introduced, and not a few altogether new procedures have been devised, tested, and widely accepted.

Pyloric stenosis, for which ten years ago pylorectomy was all that the surgeon could offer, may now, if of non-malignant character, be relieved by digital divulsion through the open stomach, by curetting, by a pyloroplastic operation, or by gastro-enterostomy; and if due to malignant disease, by the latter operation, in every way to be preferred to excision of the cancerous mass, being speedier and easier of execution, and having a mortality-rate but one-half or perhaps only one-fourth as great. In its performance, as in similar operations upon lower portions of the intestine, much use has been made of the approximation plates, as of decalcified bone, of leather, or of potato, and of cat gut rings and mats; but at the present time there is certainly a strong and growing feeling that their employment is not only not necessary, but rather an injury than a benefit to the patient. It may well be questioned if, after all, viewing the subject in its widest aspect, operations for cancer of the stomach have really been or can be of much service. They certainly have often afforded much temporary relief, and are to be resorted to when suffering is great and starvation is imminent; but on the other hand, the prolongation of life when the operation is recovered from is, with only now and then an exception, but slight; excision has almost never protected from recurrence, the abnormal anastomoses are very likely to speedily become seriously contracted, with resulting loss of the benefit primarily secured, and the necessitating disease must go on increasing, though it may be more slowly than before. In not a few of the reported cases the condition of the patients at the time of operation was fairly good, the suffering was slight, and the general strength but little impaired, yet as the direct result of the surgical interference life was cut short. If we balance these cases against those in which a few weeks or months were gained by excision or anastomosis, it is very questionable if we can find in the result of operation any material addition to the sum total of life.

Malignant disease located in the rectum, too low to be removed through an anterior abdominal incision, and too high to be thoroughly extirpated through a perineal one, may be reached from behind, after resection of the coccyx, with or without, as necessity may require, that of the lower portion of the sacrum. This new operation, neither specially difficult nor dangerous, may be done in place of a colotomy, lumbar or inguinal, the latter being to-day more generally preferred. The same objection to such radical treatment as compared with palliative, viz., increase of risk without compensating probability of cure, holds good here as at the pylorus, although in less degree.

In no other part of intestinal surgery has more been done in thought, in experiment, and practice, than in that dealing with excisions of the bowel in continuity, rendered necessary on account of wounds, growths, or gangrene. As the technique of the operations has been improved, the time of performance has been lessened, the risk to life diminished, and the range of applicability increased. It is still undetermined whether end to end or lateral anastomosis is to be preferred, of how much value bone plates, or rings, or other like aids really are, to the patient at least; how far omental grafts may be required, or how much additional security they afford.

The solid organs have again and again been brought under surgical treatment on account of wounds, of growths, and of tubercular, parasitic, and suppurative diseases.

The kidney, spleen, and even the pancreas have been removed entire, the liver in part. The gall-bladder has been opened and its contents removed (stones, bile, pus) and later sutured and left in place, or stitched to the abdominal wall, or cut away altogether. Pancreatic cysts have been at times extirpated, at times drained. These operations have yearly been more frequently performed for more varied causes, by steadily improving methods and with a marked diminution in the resulting fatality,

Special notice cannot be taken of the new and improved operations upon the uterus and its appendages, which have had for their object the relief of the distressing and grave conditions, and as their results, preservation of life and restoration to health in a large and steadily increasing proportion of the cases treated.

Of the work done upon the bladder much might well be said; but only a passing reference to the high esteem in which, so justly, the supra-pubic section is now held; to the greatly improved and more successful treatment of tumors, and to the established position that, in the period under consideration, litholapaxy has taken as the most generally applicable method of dealing with stone, even in young children, for the relief of whom ten years ago lithotomy was everywhere regarded as the only operation to be ordinarily thought of.

Though there have been many operations of very considerable extent upon the thoracic wall to secure closure of an empyemic cavity and for the extirpation of tumors, in intra-thoracic surgery but little has been done, and that almost entirely in the evacuation of lung abscesses and the removal of hydatid cysts; the result in the latter class of cases has been remarkably successful. Pneumonotomy for tubercular abscess, according to the report made to the French Congress of Tuberculosis last year, had relieved in about fifty per cent. of the cases and cured about one-fourth as many, but the number of patients thus far treated has been so small that the figures are of little importance in the consideration of the advisability or otherwise of active interference. It certainly stands to reason that the opening up and draining of the pulmonary tubercular abscess will not be likely to afford other than temporary relief, such pus collection being commonly not solitary, but one of a number in an extensively diseased organ. In the removal of deeply located foreign bodies and tumors other than those connected with the wall, almost nothing has been attempted, and there are difficulties, anatomical and physiological, in the way of such operations, which if in any given case not insuperable, will probably always tend to make prudent surgeons cautious about entering upon one of them.

Pneumonotomy, experimentally shown to be readily done and attended with no great amount of danger, will doubtless in the future have a place in the treatment of lung injuries, in which already it has been a few times employed; according to one report in fifteen cases, with a death-rate of less than fifteen per cent. That it will ever be an accepted method of treatment for tuberculous lung, may well be questioned.

(To be continued.)

Salol: its Danger and Antidote.— Dr. Chlapowski (*Therap. Monatsh.*, 1891) relates an instance in which, to use Ewald's method of testing the motor power of the stomach, fifteen grains of salol were given to a woman with indigestion. Restlessness, followed by unconsciousness, dilated pupils, irregular pulse, and constant vomiting, dark urine, and death, twelve hours later, was the result. Hemorrhagic gastritis and enteritis were found. In all cases where large doses are employed the state of the kidneys should be looked into, and if symptoms of poisoning come on sulphates should be administered, preferably the sulphate of sodium.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ADJOURNED DISCUSSION ON RENAL DROPSY—FURTHER REPORT OF THE VACCINATION COMMISSIONERS—THE NEW UNIVERSITY FOR LONDON COMMITTEE—THE LONDON DENTAL HOSPITALS—DISAPPEARANCE OF INFLUENZA.

LONDON, May 14, 1892.

THE discussion on "Renal Dropsy" at the Medical and Chirurgical Society was resumed this week and brought to a conclusion. Dr. Douglas Powell opened the adjourned debate. He said he agreed with the view that dropsy occurring late in chronic renal disease was due to the cardiac failure rather than to the renal disorganization. In acute tubal nephritis dropsy generally appeared early and diminished as the pulse-tension increased. Occasionally there was suppression of urine at an early stage without dropsy, and in such cases there was nearly always uncontrollable vomiting or diarrhœa, which probably compensated for the want of excretion of urine; if the patient survived this condition, then dropsy set in. Dr. Mahomed had asserted that high tension of the pulse preceded the kidney change in post-scarlatinal nephritis, but Dr. Powell said he doubted whether this increased tension was more than occurred at the onset of other acute diseases. He thought the high tension which occurred when the disease had passed beyond the acute stage was compensatory to insure renal secretion from a damaged kidney. Osmosis was, at any rate, a factor in the production of dropsy in renal disease.

Dr. Broadbent said he agreed generally with Dr. Dickinson's conclusions. There was probably a similar causation for cardiac and renal dropsy. He had long thought that the obstruction to the peripheral circulation had its seat in the capillaries—the sclerosis of the arterioles being subsequent and protective to the capillary net-work. The late dropsy of long-standing chronic Bright's disease was undoubtedly due to cardiac failure.

Dr. Sansom said he did not think the phenomena of cardiac and renal dropsy could be explained entirely by dynamic forces. He would substitute "prolonged arterial tension" for the term "high arterial tension." There were two factors in determining the tension, viz., the contraction of the arterial walls and the strength of the heart's action. In chronic renal disease the arterial tension was not a constant quantity. Should some intercurrent fever set in, the high tension disappeared, but there was no alteration in the dropsy. The seat of the obstruction which caused the dropsy was undoubtedly in the capillaries. Dr. Sansom said he believed that the important factor in the production of the dropsy was the presence of some lymph product. Wooldridge had shown that by injecting some lymph product into the circulation dropsical transudation could be induced.

Dr. Haig maintained that it was the presence of uric acid in the blood which caused the contraction of the capillaries and arterioles, and so prevented the escape of water from the skin, lungs, kidneys, etc.

Dr. Lazarus-Barlow urged that the causation of dropsy was twofold in renal disease, viz.: 1, Deleterious substances in the blood damaging the capillary walls; and 2, diminished pressure in the capillaries, due to the arteriole contraction. The difference of liability to erysipelas pointed, he thought, to a distinction between cardiac and renal dropsy.

Dr. Dickinson then replied. He referred to the marked way in which difference of pressure on the two sides of a membrane affected its osmotic power. He felt sure the primary obstruction was in the capillaries, and it was reasonable to suppose that the muscular and fibroid thickenings of the arterioles were both due to the changes in the capillaries. Osmosis alone was not sufficient to account for renal dropsy. The difference in composition of the fluid in renal dropsy and in inflammatory exudations disproved that the former was simply inflammatory in nature. Dropsy disappeared after the establishment of cardiac hypertrophy owing to three causes: 1, The increased flow of urine; 2, the increased suction power of the heart; and 3, the contraction of the arterioles. He thought Dr. Powell ascribed too much power to osmosis.

The Royal Commissioners on Vaccination have issued a further interim report, in which they recommend the abolition of repeated penalties in respect of the non-vaccination of the same child.

Great offence has been given to a considerable section of the graduates of the University of London by the action of the Government in regard to the constitution of the new commission. It is maintained that among the commissioners there is not one who can be said to really represent the existing university.

London has two dental hospitals. Both are contemplating a removal to fresh premises. The National Dental Hospital is located in Great Portland Street, and the managers are now erecting larger premises on a fresh site in the same street. The older hospital, in Leicester Square (Dental Hospital of London), is also about to be moved, but the site has not yet been decided upon.

No death from influenza was registered in London last week, and the disease has practically now disappeared.

MEDICAL LEGISLATION IN NEW YORK.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The record of the last Legislature, on medical affairs, was mostly of a negative nature. The most important bill was that known as "The Students' Bill," introduced by Senator O'Connor and Assemblyman Patchin. It amended Section 11 of Chapter 507 of the Laws of 1890, entitled "An Act to Establish Boards of Medical Examiners of the State of New York for the Examination and Licensing of Practitioners of Medicine and Surgery; and to further Regulate the Practice of Medicine and Surgery," as amended by Chapter 311 of the Laws of 1891, so that the act should not apply to any student who duly matriculated in a legally incorporated medical college of the State of New York before the first day of December, 1890; provided that such student, within three months after the enactment of this amendment, shall file with the Secretary of the Board of Regents of the University of the State of New York a certificate setting forth the fact of such matriculation, verified by the applicant and signed by the secretary of the faculty of the college in which he matriculated. This bill passed the Senate, but not the Assembly. It was antagonized by all the medical profession of the State. There is a rumor that the students will introduce a bill of a similar nature next year; and, if they fail in passing it, that they will try to cut down the fee paid by the students from $25 to $10. The fee in Germany is now $51.50.

Another very important bill which failed to reach the Governor was introduced by Senator McClelland. It granted a charter to the Bayard Homœopathic College Hospital and Dispensary. This bill was also fought on the ground that the charter would allow the college to give instruction according to the Bayard theory only, and that students could pass an examination after a course of but two years. Another peculiar feature was that the charter granted no property rights to the college.

A third bill, known as "The Stiff Bill," was vetoed by the Governor, although it passed both houses by a heavy vote, Speaker Bush taking the floor in favor of it on its passage through the Assembly. The bill allowed the same privileges, as to the securing of corpses, to medical schools that are now enjoyed by medical colleges. This bill has a curious history. It passed the Assembly in 1890, but it was not reached in the Senate at the hour of

adjournment. In 1891 it reached the Governor, but he found so much fault with it that it came back to the Legislature only to be killed in the deadlock. The Governor's veto of this year was on the ground that the bill was defective in construction, and that it was drafted in apparent ignorance of Chapter 280 of the Laws of 1887, and therefore omitted the important amendments contained in that chapter.

The new amendments to the Penal Code, from the Commissioners on Statutory Revision, contain certain important provisions in regard to apothecaries, including medical prescriptions and the selling of poison without labels.

The act for the prevention of blindness, Chapter 41 of the Laws of 1890, was repealed by Chapter 325 of the Laws of 1892.

A very important bill, introduced by Senator Cantor, became a law, Chapter 528. It codifies the laws regulating the practice of dentistry, and punishes forgeries and frauds in medical and dental diplomas. The provisions are that only persons over twenty-one years of age, who have graduated at an institution approved by the Dental Society, have registered at the office of the county clerk, stating their legal authority to practise in this State, and presenting a certificate from a member of the State Board of Censors appointed by the State Dental Society, shall practise dentistry. A fee of fifty cents shall be paid to the clerk. The Censors shall consist of eight, from each of the district societies, to serve four years. Every person now practising shall file within three months a statement of qualifications. Every student shall pay a fee of $5 to the secretary of the State societies for a certificate. Before filing a certificate every applicant for a Censors' certificate shall pay on application $10, and every applicant for examination by the Censors shall pay to the Secretary $30. No fee shall be returned, but if the applicant fails he may be examined again without extra charge.

A new law provides that the Western Dispensary of the City of New York, heretofore incorporated pursuant to the provisions of "An Act for the Incorporation of Benevolent, Charitable, Scientific, and Missionary Societies," passed April 12, 1848, and the acts supplementary thereto and amendatory thereof, is hereby consolidated with and merged in the Hahnemann Hospital of the City of New York, heretofore incorporated pursuant to the provisions of said act, passed April 12, 1848, and the acts supplementary thereto and amendatory thereof, as modified and extended by Chapter 64 of the Laws of 1875, entitled "An Act Concerning the Hahnemann Hospital of the City and County of New York," passed March 20, 1875. The charter of the West Side German Dispensary in the City of New York was amended so that the number of trustees should not exceed thirteen at any time.

Another law provides that the members of the Medical College Laboratory of the City of New York, a corporation created by Chapter 125 of the Laws of 1883, may at any time assign and transfer to said corporation their individual shares or interest in the property of such corporation upon such trusts for educational and scientific purposes, and subject to such provisions and conditions as said members and such corporation shall agree upon, with power to said corporation for the purposes aforesaid, at any time thereafter, to enter into agreement with the University of the City of New York for the use of such property, and with further power at any time, in its discretion, to convey and transfer by deed or gift to said University of the City of New York, any or all of such property; but the rights of any creditor of said Medical College Laboratory of the City of New York shall not be thereby impaired.

An amendment to the charter of the New York Dispensary was made, so that the members of the corporation shall be those persons who are now members of the same for the periods for which they are now entitled to membership in said corporation, and such other persons, contributors to the said dispensary, as shall be elected to membership in such corporation by said board of trustees from time to time. The board of trustees may elect such members for life or for lesser periods, and may grade the amount of contributions to be made by such members accordingly, and may make such rules and regulations in reference to such membership and the payment of such contributions as to the board may seem expedient.

The German Policlinic, in New York City, was exempted from taxation.

The Governor vetoed an item of $5,000 in the supply bill for books, serials, binding, and other necessary expenses of maintaining the State Medical Library, pursuant to Chapter 377 of the Laws of 1891, on the ground that the appropriation was not deemed advisable at the present time.

He also vetoed an item in the same bill, for the three State Boards of Medical Examiners, for travelling expenses in attending necessary meetings, payable on vouchers approved by the Comptroller, $1,200, or so much thereof as may be necessary to meet the deficiency caused in the provision for such expenses by Chapter 311 of the Laws of 1891, exempting medical students from the payment of examination fees, on the ground that "the intention of the law creating State Boards of Medical Examiners was not to involve the State in any expense. The expenses of the Medical Examiners were to be paid out of the examination fees, and the Examiners were to be the beneficiaries of all surplus receipts. While the amendatory Act of 1891, Chapter 311, may have diminished the amount of fees received, I am not convinced that any temporary deficiency should be paid out of State revenues."

Still another veto was that of an Amendment to the Veterinary and Surgery Laws, extending the time of registering till January 1, 1893.

If Assemblyman Stein's "Anti-spy" Bill had become a law, no illegal practitioner of medicine could have been apprehended unless he had been actually employed by the informer; and, in that case, the informer himself would have been arrested and made as guilty as the illegal practitioner.

A large number of bills failed to reach the Governor. Some of them had merit and some of them did not. Among them were the following:

Senator Parker: Providing for the appointment by the Regents of a board of five members to serve three years, and to act as a Board of Examiners of those wishing to engage in the business of undertaking, as the Board of Medical Examiners now acts in regard to those wishing to engage in the practice of medicine. Appointments shall be made by the Regents from a list of ten candidates furnished by the State Undertakers' Association. The object of this bill was to discover whether an undertaker is properly qualified to do embalming. Probably it will be introduced next year, with certain amendments.

Senator McCarren: Declaring that it shall not be lawful for any corporation organized under the Laws of this State, and having the care, maintenance, or custody of children or invalids, to make use of the services of any physician who is not a citizen of the United States.

Assemblyman Malone: Amending Section 834 of the Code of Civil Procedure so that, in cases where persons are suffering from personal injuries, no physician, medical student, hospital nurse, or any other person shall, except for the purpose of medical treatment, examine or obtain from any person or persons injured a statement of his or her injury, or of the accident, or an account of how such accident happened, while such person is under medical or surgical treatment for the injuries received; and no information obtained by physicians, medical students, hospital nurses, or other persons from a person injured while suffering from such injuries, or while subject to medical or surgical treatment, shall be disclosed by such physician, medical student, hospital nurse, or other person, to anyone for any purpose; and such communication shall be considered as privileged, and shall not be used or referred to upon the trial in any court of justice in this State. It

is believed that this bill was to prevent adjusters from settling up accidents on the spot.

Senator Roesch: Providing that in actions for damage from personal injury the testimony of a physician may be taken before a referee, or the physician may be summoned by the judge.

Senator Roesch: Providing that physicians and surgeons in attendance on hospitals shall be given forty-eight hours' notice in cases of subpœna to appear in cases of suit for personal injury. This bill was approved by Commodore Elbridge T. Gerry.

Assemblyman Riley: Amending the State Board of Pharmacy Act of 1884 so that any person who at the time of the organization of said Board, as provided by this act, was entitled under the provisions thereof to be licensed as a pharmacist, but who failed within said ninety days so to apply to said Board, may upon application of not less than eight days' notice served upon the Secretary of said Board, apply to the Supreme Court, at a special term thereof held in the district where such applicant resides, for an order directing said Board to issue such license; and said court shall have power to grant the same on proof of good cause shown for the neglect to apply for said license in due time, and the said Board shall issue such license on receipt of a certified copy of said order served upon the Secretary of said Board.

Senator McCarren: Amending the law for the sale of drugs and poisons in Kings County, so that the Board of Pharmacy of Kings County shall consist of five members, to be elected by the Kings County Pharmaceutical Society, from its members, at a special meeting to be called for that purpose within two weeks after the passage of this act, and one of which number so elected shall also be elected by the said Society to act as secretary of the said Board. As the law now stands it provides that the Board of Pharmacy of the County of Kings shall consist of five members, two of whom shall be pharmacists qualified for registration as aforesaid, to be elected by the Kings County Pharmaceutical Society, at a special meeting to be called for the purpose within two weeks after the passage of this act; two practitioners of medicine to be elected by the Medical Society of the County of Kings, at its next stated meeting after the passage of this act; and a pharmacist, who shall also be a secretary of the Board, to be elected by the joint ballot of the members elected as herein provided for.

Senator Hagan: Providing for a Health Department Pension Fund in the city of New York. This bill was urged by several prominent physicians of that city. It provided that the Board of Health of the city shall be a Board of Trustees of the Health Department Pension Fund, authorized and provided for in the bill. Such trustees shall have charge of and administer the fund, and they shall report in detail to the Board of Aldermen, in January of every year, the condition of the fund. They shall serve without salary or compensation. The Health Department Pension Fund shall consist of: 1. All moneys paid for searches and transcripts of the records of births, marriages, and deaths, or other papers of said Department of Health. 2. All moneys collected from fines and penalties for violations of the sanitary code or health laws in the city of New York. 3. Such sum or amount of money as may be appropriated therefor by the Board of Estimate and Apportionment in the city of New York, in its discretion, from moneys received from excise or theatrical licenses. The said moneys shall be paid to the Board of Health, and received by said board and applied to the use and purpose of said pension fund. The Board of Trustees of said fund shall have power to grant a pension to any physician employed in the Health Department of the city of New York, or to any employee of the disinfecting corps of said department, and to any employee of the hospitals for the cure of contagious and infectious diseases under charge of said Board of Health, who shall, while in the actual performance of his duty as such physician or employee, and by reason of his performance of such duty, and without any fault or misconduct on his part, have become permanently disabled, physically or mentally, so as to be unfitted to perform full duty, a sum not to exceed one-half nor less than one-fourth of his rate of compensation per annum as such physician or employee, as the case may be. Whenever any such physician or employee shall die while in the service of the Board of Health, from disease contracted or injuries sustained by him while in the actual performance of his duty, without any fault or misconduct on his part, leaving a widow, the Board of Trustees of the Pension Fund may pay to the widow of said physician or employee the sum of $300 annually during her life, or so long as she remains a widow; and if there be no widow of any such physician or employee, but there shall be minor children under eighteen surviving him, then said $300 may be paid to said children while under eighteen years of age. No physician or employee of the Board of Health shall be paid a pension on account of physical or mental disability or disease, unless upon the certificate of a board of physicians appointed by the Board of Health, which shall set forth the cause, nature, and extent of the disability, disease, or injury of such physician or employee who may be placed on the pension-roll; and such certificate shall distinctly state whether or not such disability, disease, or injury was incurred or sustained by such physician or employee while in the performance of his duties as such physician or employee of the Board of Health; and such certificate shall in such case be filed with and entered upon the minutes of the Board of Health. Any such physician or employee who has or shall have performed duty as such physician or as such employee in the Department of Health, in the city of New York, for a period of twenty years or upward, upon his own application, or upon a certificate of a board of physicians appointed by the Board of Health certifying that such physician or employee is permanently disabled so as to be unfit for further duty as such physician or employee, may, in the discretion of the Board of Health, by a resolution unanimously adopted by a full board, be retired from service and placed upon the Health Department Pension-roll, and thereupon shall be paid from said Health Department Pension Fund, by the trustees thereof, an annual sum during his lifetime not exceeding one-half the full pay of such physician or employee, as the case may be, of the Health Board of the rank of the physician or employee so retired; provided, however, that no pension granted shall exceed the sum of $1,200 per annum. Pensions of this sort shall be for the natural life of the person receiving the same, and shall not be revoked, repealed, or diminished. In determining the term of service of any such physician or employee, service in former boards of health having jurisdiction in matters of public health in the city of New York, shall be counted and held to be service in the Department of Health in the city of New York. The Board of Health may, in its discretion, order any pension granted, or any part thereof, to cease, except as provided above, but in all such cases the Board of Health shall file with the trustees of the Health Department Pension Fund a written statement of the causes which determined them in ordering any pension to so cease; and nothing in this act or in any other act shall render the granting or payment of such pension obligatory on the Board of Health or upon the trustees of the Health Department Pension Fund, or chargeable as a matter of right upon said fund, except as provided herein before.

The bill which was more ridiculed than any other by the medical profession was introduced by Assemblyman Goldberg. This bill made it a misdemeanor for any but a licensed physician, in lecture courses to medical students or before scientific bodies, to give exhibitions of or to perform hypnotic demonstrations in public, or for any but a licensed physician to hypnotize another. The Legislature did not pass the bill.

ALBANY, May 27, 1892.

THE SANITARY CONDITION OF CHICAGO.

To the Editor of the Medical Record.

Sir: Having resided in Chicago for a time, the writer can venture an opinion as to the sanitary condition of that city.

The city limits have been enormously extended, and an already severely overtaxed water-supply tapped to furnish water to each new addition from time to time. One of the inducements to buy lots is that "they are connected with city water and sewer." Any resident of Chicago who holds or desires to hold an official position is not politically indiscreet enough to offend the "real-estate" men by decrying the sanitary condition of the city.

In case of a fire the water is shut off from large districts for from twelve to seventy-two hours at a time. People in their strait for water rush in search of old wells, which more often than otherwise are under houses or stables, many of which wells have not been used for a long time. This water is used with no precautions against any contaminating properties it may contain.

The street-cleaning service is notably slack. The carcasses of dead animals are allowed to remain where they die an inexcusable length of time.

The ambulance system of the city is more of a rumor than a reality. An ambulance on the streets of Chicago is nearly as much of a curiosity as an elephant. The victim of accident or sickness is bowled along over the rough streets in a police patrol wagon. The by-standers put him down as "a drunk."

The hospitals are inadequate to meet the demands of a city of four hundred thousand inhabitants. Large portions of the city are without hospital advantages, much to the detriment of the sick poor.

In a city of Chicago's size and boasted reputation one would scarce expect to see physicians who enjoy large practices, and who profess to keep up with the times, have the hardihood to stand up before a Medical Society and give utterance to the following remarks: "I have seen cases of typhoid fever in which the bowels were absolutely normal from start to finish. In my opinion it is essentially a nervous disease, and originates in the brain. All ulceration of the bowels (if there ever is any ulceration) (?) is due to perverted secondary nerve action." Another: "We all know that there are cases of typhoid fever in which the bowels are absolutely normal from beginning to end." One man said he had "examined repeatedly" for bacilli, but could never find any. He also said: "A microscope amply sufficient for all practical use to which any doctor need to put it can be purchased for from eighteen to twenty-five dollars, objectives and all."

Is it any wonder typhoid fever is endemic in Chicago?

E. H. Smith, M.D.

Santa Clara, Col.

MORE CONCERNING THE QUESTION OF PLAGIARISM.

To the Editor of the Medical Record.

Sir: A letter from the editor of the *Journal of the American Medical Association* assures me that Dr. Hal Forbes's paper on "How a General Practitioner may Treat Atrophic Rhinitis," was read on May 4, 1892, before the Kansas State Society, and that the figures as appearing in that journal (1891) were a misprint.

This relieves me from the imputation of having stolen and published, nine months previously, an exactly similar paper in the Medical Record (August 15, 1891) under the title "Etiology and Treatment of Atrophic Rhinitis," and places that imputation elsewhere.

This also deprives me of any more *personal* interest in the matter than should be felt by yourself and fellow-editors, your contributors, and your readers.

Yours very truly,

Jonathan Wright, M.D.

Brooklyn, June 4, 1892.

New Instruments.

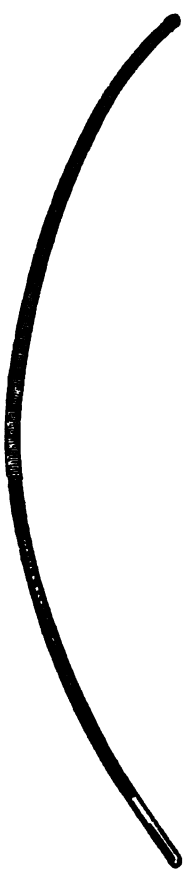
A NEW, FLEXIBLE, INTRA-UTERINE ELECTRODE FOR POSITIVE GALVANO-CAUTERIZATION.

By A. LAPTHORN SMITH, M.D.,

Professor of Gynecology in Bishop's College, Montreal.

Among the most troublesome cases to be dealt with by the gynecologist who desires to give them the benefit of Apostoli's treatment are those of uterine fibroids in which the canal of the uterus is so tortuous that it is impossible to introduce either Apostoli's platinum sound or his carbon electrodes mounted on a solid stem. On some of these cases I have spent as many as eight séances of an hour each, without having been able to introduce the electrode beyond the internal os, and this while every day was of importance on account of the severity of the hemorrhage and the patient's growing scepticism as to the advantages of the treatment.

In a paper entitled "Why Apostoli's Method Sometimes Fails," which I read a year ago before the Canada Medical Association at Toronto, I pointed out that this impossibility of reaching the diseased and bleeding endometrium was due to one of several fibroids projecting into the cavity of the uterus from opposite sides, so that the uterine canal was no longer straight or slightly curved, but consisted of several curves in the form of the letter **S**.



When a patient, therefore, comes to us with fibroids, we should in every case begin by exploring the uterine canal with a flexible bougie which will follow all the sinuosities of the canal, and having found that its depth is five or six inches, we should not be satisfied with a positive electrode any shorter than this. But the question arises, "How can we introduce a metallic sound into such a canal?" Simply by covering a flexible bougie with wire, either platinum or aluminium, for a distance of one or two, or even four or five, inches from its extremity. The first cost of platinum wire would be greater, since to-day it is worth $10.50 per ounce, while aluminium wire is worth only about ten cents per ounce. In the first ones which I constructed myself, the wire was put on in the following manner: The ivory end of a medium-sized bougie was cut off and a steel wire passed down the centre until it was arrested about a quarter of an inch from the olive-pointed end; this point was marked on the outside by withdrawing the wire and measuring the distance it had entered; a needle-hole was then made at this point, and one end of the platinum or aluminium wire was threaded into it and passed out at the other end. The wire was then wound on to the bougie for the required distance, and then another pin-hole was made into which the end of the wire was again threaded into the hollow of the bougie and drawn tight. The two ends of the wire were then attached to a connecting tip to which the wire from the positive pole was fastened.

At the request of several colleagues I have handed one of the roughly made instruments to Messrs. Waite & Bartlett, the well-known manufacturers of electrodes, who have turned out a very neat instrument, as shown in the cut.

It may be objected that they will wear out, but as a matter of fact I have found that one of them will last throughout the treatment of one case, after which it may

be thrown away, the cost being so small. The best means of keeping it clean is to wash it with soap and water at the end of an application, and then to keep it in a jar of pure glycerine until required again.

The leaving of a small portion of the bougie at the end uncovered with metal is a great safeguard, as burning a hole in the uterus is thus prevented, an accident which is possible when the metallic end of the sound is pressed firmly against the fundus uteri and a heavy current turned on.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 4, 1892.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	16	2
Scarlet fever	190	26
Cerebro-spinal meningitis	1	7
Measles	565	38
Diphtheria	85	23
Small-pox	5	4
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Death in Blue Pills—Blue Pills and Red Tablet Triturates.—Dr. George E. Abbott, of this city, writes: "Some weeks since, at a meeting of the Post-Graduate Clinical Society, I reported an incident which seemed to interest those present, and may also the readers of the RECORD. It was a case of possible accident from the use of the bichloride of mercury tablets, 'colored blue.' One of the physicians had called attention to the advantage of the little one-grain tablet triturates, 'colored blue,' over the large ones of five or seven grains, in that the small ones gave all the solution needed for an average dressing, and one could carry in small space twenty-five or fifty dressings instead of five or ten. This reminded me of a case in which I had been using these little tablets for several days, asking the nurse to hand me some of the little blue poison tablets, etc., when I wished to make the solution. At one visit this suggestive nurse said that the patient's bowels were quite constipated, and asked if she might not give her 'some of those little blue pills.' I immediately saw the danger in the general use of these very useful little tablets, by those laymen accustomed to the old-fashioned 'Blue Pill,' and thought to have them colored red, indicating danger, thus avoiding the complication with the officinal blue pill." Dr. Abbott further says that at his suggestion a leading pharmaceutical firm in this city now manufactures the small one-grain tablet triturate, colored red, which gives us many dressings in small compass, displays a danger signal, and avoids the possibility of the blue-pill complication.

Rapid Generation.—Dr. J. V. Kendall, of Baldwinsville, N. Y., writes: "In the MEDICAL RECORD of May 7th, p. 520, is a little article on 'Rapid Generation,' by Dr. L. M. Sharp, who asks: 'Can any of the readers of the MEDICAL RECORD equal this?' to which the editor replies, 'We doubt if they can.' Now I don't propose to 'equal this,' but to give two cases of good business at 'Rapid Generation' which came under my knowledge (but not in my practice), and with both of which families I was well acquainted. The first case was as follows: A couple were married, and inside of four years they had four children, born at four confinements, evidently legitimate, as it was over nine months after marriage before the first child was born. The second case I can best describe by a short narration, as follows: I was visiting a patient with my preceptor, the late Dr. S. Pardu, of Fulton, N. Y. It was a cold day in winter, and, as the house was small and the family large, the main room was well occupied by the children hovering around the fire to keep warm. The doctor spoke to the mother as follows: 'Mrs. P——, the children are pretty thick here; how many babies have you?' Mrs. P—— replied, 'We've got only eighteen, doctor; we've lost four.' On further inquiry we learned that at three different confinements she had twins. She was an Englishwoman. Her age we did not learn; but she appeared young and fresh enough for half a dozen more. Whether she ever fulfilled the apparent promise is beyond my knowledge."

Dr. D. A. Lenes, of New Orleans, writes: "In your issue of the 7th May, Dr. L. M. Sharp, of Minneapolis, reports, under the head of 'Rapid Generation,' a case of two births in the short space of nine months and fifteen days, both at full term. I read this report with a great deal of interest, more especially since both our friend Dr. Sharp and our editor seem to doubt if any one can 'equal it.' I beg to report that at this writing I have a lady under my care who, on November 19, 1887, gave birth to one boy, and on October 16, 1888, gave birth to three girls, making a total of four births in the space of ten months and twenty-seven days, of which at this time there are three of the four children existing as living evidence, and can be seen by any one who will call on me and make the request. These three living children are the boy of the first birth and two girls of the triplets. They are perfect pictures of health and beauty, and promise to live long and prosper."

Birth of Child during Sleep of Mother.—J. B. Eagleson, M.D., surgeon to Grace Hospital, Seattle, Wash., writes: "The case of 'An Easy Birth,' reported in the MEDICAL RECORD of April 23d, by Dr. Ernest B. Sangree, of Philadelphia, Pa., brings to my mind a case which occurred in my practice three years ago. One afternoon I was called in to see a lady whom the message said had given birth to a child during the night before, but that 'the afterbirth had not yet come away.' On making an examination I found the placenta lying loose in the vagina, and readily removed it. In talking to the patient I elicited the following history from her: She was about seven months pregnant, and had had excellent health during the whole time. On the evening before, she felt some slight pains in her stomach, and, thinking that she had eaten something that did not agree with her, she took a dose of castor-oil at bedtime. She had no more pains and went to sleep as usual, and did not wake until about 3 A.M., when she felt something lying between her legs. On examining it she found that it was her baby, which had been born while she was asleep. It was a seven-months' still-born fœtus. The lady was at that time twenty-eight years of age, and had given birth to one child eighteen months before. Since then I have attended her in two confinements, both of which have been somewhat slow, one seven hours and the other nine hours. As I have never heard of a case in which the child was born while the mother was asleep, this one seemed to me to be worth reporting."

The Law Governing the Practice of Medicine in New York State, and how it is Enforced.—The many inquiries directed to the Regents' office and to the secretaries of the various State Boards of Medical Examiners indicate that the profession is largely interested in the operations of the law at present governing the practice of medicine in the State of New York. This manifested interest is accepted as of sufficient moment to warrant the publication of the salient features of the law, and at the same time to give the profession an insight into the methods and machinery necessary to its proper enforcement. The law, signed by the Governor, June 4, 1890, went into effect September 1, 1891, and has been operative since that time. It provides: "From and after the

1st day of September, 1891, any person not theretofore lawfully authorized to practise medicine and surgery in this State, and desiring to enter upon such practice," may, after the following conditions have been fulfilled, receive an order to be examined before one of the three State Boards of Medical Examiners as to his medical qualifications. 1. Applicant must be more than twenty-one years of age. 2. Must present certificate of moral character from two legalized resident (State) medical practitioners. 3. Must be a graduated doctor of medicine from some legally incorporated medical college in the United States, or have received a diploma or license conferring the full right to practise all the branches of medicine or surgery in some foreign country. 4. Must have attended at least three full courses of lectures, in different years, in some legally incorporated *medical* college or colleges. 5. Must pay twenty-five dollars into the treasury of the University of the State of New York. 6. Must present evidence of preliminary education, as follows: Either, *a*, usual academic degree; *b*, one year at academic-degree-conferring college; *c*, three years in a high school or academy; *d*, be in possession of Regents' medical student certificate; *e*, matriculation certificate required by present medical act of Canada; *f*, matriculation certificate from any university in Great Britain or Ireland; *g*, certificate of having passed examinations of any registered institution equivalent to one year in academic college or three years in high school.

All these preliminaries having been complied with, upon proof presented by the applicant, in his or her own handwriting, to the satisfaction of the Regents (on blank forms furnished on application), an order is given admitting the candidate to the next examination. Five regular examinations are held during the year (during the year 1892 there are still three regular examinations to be held as follows: June 14–17, September 27–30, and November 22–25), simultaneously, at New York City (21 Cooper Union), Albany High School Building, Syracuse High School Building, and Buffalo High School Building, and as many special examinations are ordered as are deemed necessary by the Regents, depending upon the exigencies which may arise. At these examinations the candidates are examined on the subjects of—1, Anatomy; 2, Physiology and Hygiene; 3, Chemistry; 4, Surgery; 5, Obstetrics; 6, Pathology and Diagnosis; and 7, Therapeutics, including Practice and Materia Medica. The candidate is allowed three hours' time in which to answer ten from among the fifteen questions submitted on each topic; each answer, if correct, has a value of ten points, and *each* full paper of ten questions answered must have a total value in markings of at least seventy-five points, otherwise the candidate is rejected. There are two sessions of three hours daily, each session devoted to one of the seven topics; thus, three and one-half days are requisite for completing the examination. The candidates are examined according to number, no name being allowed to appear on the answer papers; the name of the candidate is placed in an envelope marked with the corresponding number, is sealed, and left unopened until the final report of the examiners has been made.

There are three boards of State Medical Examiners, as follows, representing the Medical Society of the State of New York, Homœopathic Medical Society of the State of New York, and the Eclectic Medical Society of the State of New York.

Medical Society of the State of New York.—Physiology and Hygiene, William C. Wey, M.D., *President;* Chemistry and Materia Medica, Maurice J. Lewi, M.D., *Secretary*, 71 Lancaster Street, Albany; Anatomy, William S. Ely, M.D.; Surgery, George Ryerson Fowler, M.D.; Obstetrics, William Warren Potter, M.D.; Pathology and Diagnosis, J. P. Creveling, M.D.; Theory and Practice and Therapeutics, Eugene Beach, M.D.

Homœopathic Medical Society of the State of New York.—Pathology and Diagnosis, Asa S. Couch, M.D., *President;* Anatomy, Horace M. Paine, M.D., *Secretary*, 105 State Street, Albany; Physiology and Hygiene, A. R. Wright, M.D.; Chemistry, John McE. Wetmore, M.D.; Surgery, E. E. Snyder, M.D.; Obstetrics, William S. Searle, M.D.; Therapeutics, Practice and Materia Medica, Jay W. Sheldon, M.D.

Eclectic Medical Society of the State of New York.—Obstetrics, Hugh J. Linn, M.D., *President;* Surgery, Edwin S. Moore, M.D., *Secretary*, Bay Shore; Anatomy, William L. Tuttle, M.D.; Physiology and Hygiene, Robert Hamilton, M.D.; Chemistry, Harry B. Smith, M.D.; Pathology and Diagnosis, John P. Nolan, M.D.; Therapeutics, Practice and Materia Medica, *Vacancy.*

They are appointed by the Regents from nominations submitted by the State, Homœopathic, and Eclectic Medical Societies, for a term of three years, for every vacancy two names being submitted by the societies. The principal work of the examiners is to formulate questions for examination purposes and to mark the answers thereto. The questions submitted at each examination are the same for all candidates, excepting on the seventh topic (Therapeutics, Practice and Materia Medica), three sets of questions being furnished at each examination, each set representing the views of one of the three legally incorporated schools of medicine in the State on this subject, the candidate receiving the set for which he had expressed a wish in his original application for license. The questions to be used at the various examinations are decided upon as follows, those previously secured in a similar way having become exhausted: The Regents issue a notice requesting each of the twenty-one examiners to forward, on or before a certain date, sixty questions on the special topic to which each is assigned; subsequent to this date the Questions Board, consisting of six members, two from each board, is called in session. The questions on the seventh topic are handed to the two members representing their special board, who, as previously stated, and as particularly specified in the law, have complete charge of this subject. With the other six subjects, one hundred and eighty questions having been submitted in each, the Questions Board acts as follows, taking Anatomy, for instance: The secretary reads a question alternately from each of the three papers submitted by the examiners in this topic, and unless each receives the unanimous vote of all present it is stricken from the list of available questions. The one hundred and eighty questions having passed through this process, are arranged in sets of fifteen, each set is numbered and sealed, and thus at one sitting, lasting, however, many hours, an average of ten complete sets of questions is prepared, thus providing for ten future examinations. These sets of questions are placed in the custody of the Regents, who, as the time for the next examination approaches, call upon the secretary of the Questions Board to review the printer's work after the questions are put up in type. The examinations proper are conducted by a sworn official of the Regents' office who is not a member of any one of the State boards of medical examiners. As soon as the examinations are concluded the answer papers are delivered to the secretary of the board selected by the candidate in his application, and by him in turn sent to the different individual examiners, who return the papers with their markings to the Board of Regents; these answer papers thereupon become a part of the public records of the State. If a favorable report is made by all of the examiners on the answers of any applicant, a license is immediately forwarded to his address, thus enabling him to register at once and commence the practice of his profession. The last examination was concluded May 6th, and on May 14th the licenses were forwarded from the Regents' office to the successful candidates. Arrangements are now being made for the next examination, which will enable the Regents to forward these licenses within five days of the close of the examinations. The income accruing from this law goes to the Board of Regents, who after paying

all proper expenses will, if ever there should be a surplus, apportion the money among the twenty-one examiners according to the number of candidates examined by each. Graduates in medicine who have been licensed by State examining boards of other States *of the United States only*, on convincing the Board of Regents that the standard of requirements adopted by the board of examiners which granted them the license is substantially the same as in New York State, may, upon the payment of $10, have such license endorsed. The following summary of the laws has been made:

1. The University of the State of New York is the only organization having authority to issue licenses to practise medicine in this State after September 1, 1891. These licenses must be registered by county clerks, on application. (*Laws of New York*, 1890, ch. 507, § 8–9.)

2. Licenses issued before September 1, 1891, can be registered only as follows: *a*, A diploma granting the degree M.D., issued before September 1, 1891, by an incorporated medical college *in this State*, is a license to practise medicine and must be registered on application. (*Laws of New York*, 1889, ch. 647, § 2.)

b, A diploma granting the degree M.D. from a medical college *out of the State*, or a license to practise medicine in some foreign country, can be registered only if it was endorsed between June 18, 1880, and June 24, 1890, by an incorporated medical college of the State of New York or by the University of the State of New York, or if between June 24, 1890, and September 1, 1891, it was endorsed by the University of the State of New York. (*Laws of New York*, 1880, ch. 513, § 4; 1887, ch. 647, § 2; 1890, ch. 500.)

3. Students who had matriculated in a New York State medical college prior to June 5, 1890, and had not received the degree M.D. prior to September 1, 1891, to be exempt, must have filed a certificate with the University of the State of New York before August 4, 1891. (*Laws of New York*, 1891, ch. 311.)

Licenses of such candidates may be registered as follows: *a*, A diploma granting the degree M.D. from a New York State medical college issued after September 1, 1891, can be registered on presentation of a certificate from the secretary of the University of the State of New York that the applicant had matriculated in some medical college of the State prior to June 5, 1890. (*Laws of New York*, 1891, ch. 311.)

b, A diploma granting the degree M.D. from a medical college not in the State, or license to practise in a foreign country, if endorsed by the University of the State of New York, can be registered on presentation of a certified copy of a certificate filed with the secretary of the University of the State of New York that the applicant had matriculated in some medical college of the State prior to June 5, 1890. (*Laws of New York*, 1891, ch. 311.)

All diplomas issued by medical colleges in this State prior to January 1, 1880, which are presented for registration after this date, should be referred to the University of the State of New York for examination before being registered.

And further, to quote the exact wording of the law:

§ 10. Nothing in this act shall be construed to interfere with or punish commissioned medical officers serving in the army or navy of the United States, or in the United States marine hospital service while so commissioned, or anyone while actually serving as a member of the resident medical staff of any legally incorporated hospital, or any legally qualified and registered dentist exclusively engaged in practising the art of dentistry, or interfere with manufacturers of artificial eyes, limbs, or orthopedical instruments or trusses of any kind from fitting such instruments on persons in need thereof; or any lawfully qualified physicians and surgeons residing in other States or countries, meeting registered physicians and surgeons of this State in consultation, or any physician or surgeon residing on the border of a neighboring State, and duly authorized under the laws thereof to practise medicine or surgery therein, whose practice extends into the limits of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York; or physicians duly registered in one county of this State, called to attend isolated cases in another county, but not residing or habitually practising therein.

Appended will be found the examination results thus far obtained:

Number of those who fulfilled all requirements and received license	34
Number of applications still unacted upon	10
Rejected for failure to reach seventy-five per cent. at final medical examination	1
Deficient in preliminary education	6
Had never attended three full courses of lectures	4
License withheld because of moral reasons	1
Total number of applicants for license to practise medicine to date	56

Addenda.—All examinations are conducted in English, unless the applicant expresses a desire to be examined in Latin. In that event the application, with the reasons therefor, is placed before a committee consisting of the presidents of the three boards, whose decision is accepted by the Board of Regents. The candidate must pay the expenses of translation. Whenever it is found necessary to obtain the opinion of the boards of examiners, the University authorities are requested to confer with a subcommittee of the conference, consisting of the president and secretary of each board, who are the executive committee of the boards. The boards proper meet twice in each year.

A syllabus is in course of preparation and will be issued shortly. A candidate having failed, whether in one or all seven branches, his application for license is rejected. On re-examination no fee is exacted, but the candidate must pass the examinations on all seven topics regardless of the number he passed at the previous examination. Appeal for a reopening of any examinations may be made to the Regents of the University.

Indications point to a class of from fifteen to twenty applicants at the next regular examination, June 14, 1892.

By order of the State Board of Medical Examiners, representing the Medical Society of the State of New York.

WILLIAM C. WEY, *President.*

MAURICE J. LEWI, *Secretary.*

Professional Fees among the Israelites.—On this subject there is a curious document, of which the Hebrew original is lost. It is the "Ecclesiasticus" of the Son of Sirach, Jesus by name, a book not accepted by Jews or Protestants as part of the Bible, but included in the so-called "Apocrypha." Another Jesus, grandson of the above-named, has left a Greek version of it, and St. Jerome, who says he saw it in its original Hebrew, has translated it into Latin. The Talmud contains some fragments of that original. The opening words are in the Vulgate as follows: "Honora medicum, propter necessitatem; etenim illum creavit altissimus." (Honor the physician, because thou hast need of him; for he was created by the Most High.) In this passage "honorare," it has been remarked, means not only to "respect," but to "give honoraria" (fees). In this sense the Greek of the Septuagint corresponds with the Latin. The passage proceeds: "A Deo est enim omnis medela et a rege accipiet donationem." (From God indeed comes all healing, and the king will crown it with presents.) Again: "Disciplina medici exaltabit caput illius et in conspecta magnatorum collaudabitur." (The culture of the physician will exalt his head, and in the presence of princes he will be praised.) Yet again: "Altissimus creavit de terrâ medicamenta, et vir prudens non abhorrebit illa." (The Most High has made medicines to spring from the

earth, and the wise man will not abhor them.) After a eulogy of the virtues of these medicines, especially as prepared by the apothecary, the passage resumes: "Etenim Dominus creavit illum (medicum) et non discidat a te, quia opera ejus sunt necessaria." (For the Lord has created him [the physician], and let him not abandon thee, for his works are necessary to thee.) The English version from the Greek of the Septuagint is substantially the same as the above rendering from the Vulgate. See "Archéologie Médicale de l'Égypte et de la Judée," par le Dr. Beugnies-Corbeau (Liége, 1891).—*The Lancet.*

One "Dr." John Malok, of Chicago, incorporated a "German-American Homœopathic College" at the lavish expenditure of $6.50. The college was opened with prayer and located over a beer saloon.

> "The spirits above were spirits divine;
> The spirits below were spirits of wine."

Soon after the "opening" of the "college" these spirits malign began to persecute him. They inserted advertisements in Berlin (Germany) papers offering diplomas cheap. Through their machinations a midwife deposited $400 with the college as a fee for a professorship, which somehow disappeared. The German advertisements caused the deposit and disappearance of $100, which a deluded man says he paid to "Dr." Malok, but the latter claims to his malign enemies. This "truly good" man has been sued for several similar disappearances of cash. The college is defunct, but the hand of the law is lifted threateningly over "Dr." Malok, who will probably never get another Hahnemanniac diploma nor give one.—*Medical Standard.*

A Visit to the Pasteur Institute in Paris.—The Institute is quite a fine large building standing back from the street. On the grass plot in front is a figure of a boy struggling with a mad dog, in bronze, which typifies at least one branch of the work done in the Institute. We entered a large waiting-room at the side, which contained about sixty patients of all nationalities. I noticed among them two Arabs in their native dress, a Chinese, a Japanese, besides several English people. The treatment is gratuitous only, so rich and poor have alike to wait their turn. The porter took our cards into the professor's room, and in a few moments we were ushered into the presence of the great man. He greeted us very kindly, and after a few remarks called an assistant, who showed us about a bit, and explained the treatment to us. A very careful record is kept of each patient, the state of the dog, site and extent of the wounds, date when bitten, date of commencement of treatment, etc., all being recorded. It seems bites about the face are considered the most dangerous. As a rule, from twenty to sixty injections in all are given, at intervals of a day or two. The strength of the solution is gradually increased as the treatment goes on, the duration of the treatment depending on the site and character of the wounds. The fluid itself is an opaque, milky-looking substance with but little odor. The patients come in in turn, with the clothing about the abdomen loosened so that a small area of skin can be reached on either side. The patient is held by and leans on an assistant, as most start when the needle is introduced. The site of the injection having been cleansed with a solution of carbolic acid, about 10 c.c. of the fluid is injected deeply into the tissues with an ordinary large hypodermic needle. As a rule, an injection is given on either side of the abdomen. Pasteur is a small, rather spare man, with a much wrinkled, yet kindly, face, and gray hair. I was surprised to notice that he has very little power over the left side of his body, and that his speech is affected, so that it is difficult to understand what he says. This condition is the result of a "stroke" he had six years ago. The work of the Institution is done by assistants, Pasteur being able to do but little.—Paris Correspondent of the *Montreal Medical Journal.*

Dr. E. S. Barrows, who died on March 11th, in Davenport, Ia., at the age of ninety-three, some years ago caused the following epitaph to be engraved on the monument over the spot where his wife was, and he was to be, buried: "All who sleep here still exist as material constituents of the Universe. Hope may, but belief should not, transcend experience."

A Doctor Expresses His Sentiments.—A physician of Brussels has got himself into trouble by going to a variety show and giving utterance to his disapproval of certain improprieties of the ladies with short skirts. The audience did not appreciate the timeliness of his remarks and proceeded to turn him out. He resisted and a general row ensued, which resulted in the doctor being locked up for the night and fined 150 francs for disturbing the peace, in addition to having to pay the proprietor of the show for the damage done to furniture and beer-glasses.

A Great Scandal at the Faculty of Medicine of Paris.—There is held periodically at the Paris Faculty of Medicine a competitive examination for the filling up of any vacancies that may occur in the list of *professeurs-agrégés* in medicine or surgery or obstetrics at the metropolitan and provincial faculties. The examining board is composed of professors of the Paris and provincial faculties, the president nominated this year by the Ministry of Public Instruction for the examination in medicine being Professor Bouchard. When the result of this very difficult and long competition was announced a fortnight ago, the absence of certain well-known names from the list of successful candidates was much commented on, and charges of favoritism and infringements of regulations in the conduct of the examination were boldly formulated both in the lay and professional press. The choice of the professors composing the Board of Examiners lies with the president of the board, himself nominated as above mentioned by the Minister of Public Instruction. A general charge is made that the discretionary power thus conferred on the president is taken advantage of in order to form a jury whose sympathies will naturally incline toward any candidates favored by the president. It is further pointed out that the choice of a president at this year's *concours* was particularly unfortunate, seeing that Professor Bouchard, without having the title, exercises the functions of the technically suppressed post of inspector-general of faculties and schools of medicine. The irregularity alleged to have occurred in the conduct of the examination consists in this—that it was postponed for twenty-four hours pending the recovery from indisposition of Professor Sée, a member of the jury. When M. Germain Sée had recovered he could only attend during three days, and the proceedings were continued without filling up the vacancy caused by his definite retirement, which constituted yet another irregularity. Of the five successful candidates for the Paris faculty it is said that three are pupils of M. Bouchard, that three of the five are not hospital physicians, and have published no particularly important works, and, finally, that three out of the five unsuccessful candidates are not only hospital physicians, but are well known for their valuable contributions to medical science. For these various reasons the unsuccessful competitors have sent a petition to the Minister praying him to annul the choice of the examiners. That their contention merits consideration is probable from the fact that no less a personage than Professor Cornil presented the discontented phalanx to M. Lesage, Avocat au Conseil d'État, who is to champion their cause. —*The Lancet.*

Dr. Constantin Paul's new development of Brown-Séquard's principle has been received with such universal condemnation that one begins to think there is something in it. All genuine discoveries in medicine are met with incredulity and opposition, while only Koch's lymph, and such, evoke the instant and universal enthusiasm of the medical profession.—*Times ana Register.*

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THE PROBABLE ERRORS OF FOOD INVESTIGATIONS.

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THERE are unavoidable errors that enter into any operation having for its object the determination of the numerical value of a quantity. For instance, the exact latitude of a place can never be known, and if a dozen determinations are made, probably no two will agree. The mean of the various values and its probable error can be calculated by the higher mathematics. If the probable error is one-tenth of a second, we know that the calculated mean value of the latitude is within one-tenth of a second of the true value. In simple operations, as the measuring of the length of a bar of iron, or in those in which the method is nearly perfect, the probable error may be very small, but in complex or crude operations it is often so large that the numerical result obtained may be a mere approximation. No two investigators reach the same result in their efforts to find the quantity of food requisite for a man in health. The operations performed in such investigations are often so complex, and the sources of error so numerous, that the results obtained differ widely. If the various values obtained were combined to calculate the mean and its probable error, we should find that the latter is entirely too large to be neglected either theoretically in scientific studies of food, or practically in devising an economical dietary for schools, prisons, almshouses, or armies. Many of the works treating of food fail to point out the errors that necessarily arise, though they state that the results given are averages and often mere approximations. A study of the various errors that enter into food investigations is therefore of considerable importance to everyone concerned in such problems.

Methods of Determining Daily Food Values.—There are four methods used in determining the amount of food required by a man in health.

First, by collecting and analyzing all the excreta, obtaining the amounts of carbon and nitrogen therein contained. These values would, therefore, be the quantity to be daily supplied in the food.

Second, by measuring the food consumed by persons in the lower walks of life, who live in presumable health, and whose poverty necessarily limits both the quantity and variety of food to the barest needs of existence.

Third, by measuring the food consumed by large bodies of men who are fed from one kitchen, as in prisons or almshouses. This method is, of course, merely an extension of the second.

Fourth, by measuring the amount of energy expended by men, including work done voluntarily and involuntarily, and heat radiated or otherwise lost, and from these calculating the amount of energy required in the food to replace the expenditures.

It is evident that all these methods must involve serious errors, that are due not only to the crudeness of the methods themselves, but also to the complex nature of the problem and its numerous details, and it is these sources of error that are detailed below.

Chemical Composition of Foods.—The first method presumes that the carbon and nitrogen of a given article of food are always known. They have been accurately determined in particular cases, yet the results of different chemists vary within limits that are often far from the average. Such variations are, in the first place, partly due to unavoidable errors of the chemical apparatus, for the methods used to determine these values are extremely complex, and due allowance must be made for instrumental errors, leakage, etc. In the second place, the vetetables and meats themselves must be subject to variations in chemical composition due to variety or species, climate, season, heat, moisture, cultivation, and the thousand and one causes which promote or retard nutrition and growth of plants and animals. We are, therefore, not sure that a pound of potatoes, for instance, contains 23.1 grains of nitrogen and 770 grains of carbon, as stated by Payen, or whether much more or less. The same may be stated of all the staple articles of diet, and a numerical value may be given to these discrepancies in a few cases. Beef contains 13.125 grains nitrogen per avoirdupois ounce, according to Payen; but according to Parke, beef, as supplied to the soldier, contains but 10.35 grains, each estimate having a variation of ten per cent. from the mean. There is a possible variation of forty-five per cent. of the mean of the nitrogen in salt pork (18 grains per ounce) and fat pork (6.8 grains per ounce) as given in Parke's tables, and it is evidently impossible to estimate from such figures the composition of any given specimen of this article. In the case of peas, bread, and flour there is much greater uniformity, yet bread when fresh baked contains so much water, which it loses in a few days, that it alone would cause considerable inaccuracy in a dietary.

Chemical Energy and Heat Value of Foods.—The fourth method above presumes that the heat value or potential energy of the food is accurately known—an unwarranted assumption. The determination of the chemical energy of any substance is an intricate problem, and though it may be obtained with some degree of accuracy by the calorimeter, the results obtained have their errors, which are chiefly instrumental. Again, the total energy of the articles of food is not liberated in our bodies, for the products of combustion in our bodies are not the same in many cases as the products of combustion outside our bodies. This is particularly so in the case of nitrogenous food, whose lowest degree of oxidation is the form of urea, and a large portion of the nitrogen is excreted in the form of much higher and more complex compounds—in the digestive fluids, the vapors from the lungs, the epithelium, and fluids from the skin and mucous surfaces. The energy lost through these avenues is not known, nor can a close approximation be made in the case of these complex and unknown substances, and the necessary corrections cannot be applied. It can only be said that the total energy of food is not the same as the available energy, or the amount that can be given out in heat and work, and this source of error must cause considerable variation in the amounts of energy needed in foods, as determined by different investigators.

It has already been stated that the chemical composition of different varieties of the same article of food will vary, and of course the same may be said of the potential energy. A pound of beef from one animal may yield more energy than a pound from another, or an ounce of wheat from one district more than an ounce from another. This variability, due to the causes which have already been mentioned as influencing growth and develop-

ment, will always cause some uncertainty as to whether the total energy of the food supplied is equivalent to the energy expended per day by a healthy man, even should the latter amount be accurately determined.

The Actual Available Energy of Foods.—We have already given the name of available energy to the total energy of food which can be given out in our bodies by oxidation to the simpler substances excreted. In a steam engine the fuels supplied are compounds of carbon and hydrogen chiefly, and these are oxidized in the main to the form of carbon dioxide and water in the more perfect contrivances. Of all that energy so liberated but a small proportion is utilized in the form of work by the engine, because the sources of water are numerous and unavoidable. The total amount that can be used in a perfect machine might be called the available portion. As the machines are never perfect, the available energy is not all used. An animal, likewise, receives fuel as the engine, but the fuel is more complex. The hydrocarbons and carbohydrates are theoretically burned to the form of carbon dioxide and water, while the nitrogenous foods are chiefly burned to urea or still higher forms. In the animal, unlike the engine, nearly all of this energy is available for the production of heat and work, because the sources of waste in engines are not found in the case of animals. The perfect animal has a far higher efficiency than the perfect engine, but as it is a mistake to regard the latter as perfect and capable of utilizing all the available energy, so it is also an error to assume that animals are perfect machines, and able to convert all the available energy of the food into heat and work. There are many ways mentioned below in which the available energy of our food may be lost.

Digestibility of Food.—The variability of food, aside from its chemical composition, but in regard to its digestibility, introduces a variation in primary assimilation and a loss of the otherwise available energy. Every article of food contains a certain portion which is indigestible; for instance, the cellulose of fruits and vegetables and the tough tendinous portion of meats, and in some cases even the meat itself—the muscular fibre—is in such a hardened condition that it resists the digestive fluids. This indigestible portion is often intimately mixed with the digestible, and its amount varies within comparatively great limits. We cannot tell at a glance how much this portion is, and we often find much undigested food in the fæces when no reasonable explanation can be given, except that this portion was large in amount, and so mixed with the rest as to prevent the digestion of the whole. Again, there are many articles of diet, as, for instance, peas, corn, and beans, which, though ordinarily digestible by a healthy stomach, become exceedingly indigestible through age, or carelessness, or ignorance in preparation or preservation, and often through unknown causes. It is certain that highly nutritious and wholesome articles of food often pass through a healthy intestine totally unchanged, and much energy which we would judge to be available for the production of work be wasted.

Assimilation.—When food is eaten it is not necessarily assimilated, for there are often great variations in the digestive power of healthy people. It is rare to find a person whose health and habits are so uniform that each day is simply a repetition of the preceding day, and who has no variation in his comfort or power of work. Every man meets daily with occurrences which vary his appetite, digestion, and excretion. If a healthy man were to eat each day exactly the same number of grains of the same kind of digestible food, it is not improbable that in no two days would the amounts assimilated be exactly equal. There are many conditions which vary the primary assimilation, as, for instance, the amount of blood supplied to the digestive organs, resulting from the temperature and condition of the skin, the coincidence, during digestion, of rest or of light or heavy work, or any of the multitude of little causes combining to take blood from these organs. If great fatigue or exhaustion existed previous to the ingestion of food, digestion may not only be delayed, but greatly diminished. The condition of the stomach is of importance, for if too short a time has elapsed since the last meal, or if the organ were previously abused by improper food, its power is certainly less than it should be. It has long been known that a state of fever prevents secondary assimilation—the hair, nails, and other tissues ceasing to grow; and it is now known that fever may entirely suspend primary assimilation also, the stomach and intestines being for the time useless organs with inert digestive fluids. It is, therefore, reasonable to suppose that slighter variations in the condition or tone of the system may cause impairment of the power of the stomach and intestines and a loss of good food. There are few people who eat properly. The stomach is as much abused as any portion of our anatomy. Hasty eating and faulty mastication are the chief causes of the enormous number of cases of "dyspepsia." Every physician can recall cases where vomiting for some cause has taken place many hours after a meal, and the vomited matters contain huge pieces of meat that have been hastily swallowed and resisted the power of the gastric juices. In such cases primary assimilation must be faulty and a waste of food energy take place. There are, in fact, many ways in which variations in the condition of the body, or of particular organs, or of the nervous system, will cause variations of digestion, and make it impossible to foretell how much of the food ingested will be assimilated. From these and still other causes we see why it is that a microscopic examination of the fæces of a healthy person consuming proper food, may reveal much of that food undigested.

Cooking.—Cooking is seldom uniform. Other conditions of the food being unchanged, a good cook, instead of making food more digestible, will occasionally make it less easily digested. Indeed, a little carelessness may make a wholesome article entirely indigestible. The waste of available energy may become enormous where the cook is unskilled, where he is ignorant or stupid, or where faulty methods of cooking are employed. The frying-pan may so harden food and coat each particle with grease to such an extent that no gastric fluid will have the least effect upon it. This possible loss of available energy by cooking should therefore be always taken into consideration.

Errors in Measuring Excreta.—In determining the amount of carbon and nitrogen excreted, the urine, fæces, and exhalations are collected and analyzed. In the case of the urine, of course, extreme accuracy is obtained, and as the urine is the chief vehicle for the excretion of nitrogen, we gain valuable knowledge from this source alone; but there are other channels for the excretion of nitrogen. Ammoniacal and other nitrogenous vapors and fluids from the mucous and cutaneous surfaces carry off a certain percentage of nitrogen, and though presumably small in comparison to the nitrogen of the urine, they introduce an error which vitiates the accuracy otherwise obtainable.

The apparatus used to collect the exhalations is extremely complex, and each increase in its intricacy introduces instrumental errors that throw some doubt upon the numerical results obtained.

It is in the case of the fæces that the greater error is found, for here, as above noted, there is much uncertainty due to ignorance of the digestibility of food. The carbon and nitrogen of the fæces is not all excreted, in the limited sense of the term; but some of it represents the undigested portion of the food, and there is no accurate way of determining which portion is waste and which portion is an excretion. This error is of importance if we wish to find out how much carbon and nitrogen are actually excreted, but practically it is of little value if we want to know the actual amount of food necessary, because, whether they are in the waste food or in excreted compounds, they must be supplied in the food. The

error in the latter case may be quite small, for the daily fecal discharges in any one case are quite constant in amount, leading us to suppose that the daily undigested residue may be quite constant; but, on the other hand, the causes already mentioned may make it vary within quite wide limits.

Errors in Measuring Energy Wasted.—Omitting the waste in the food from the causes already mentioned, it has been calculated that if all the food is consumed to carbon dioxide, water, urea, etc., there are 2,200 calories of heat available. This energy is expended as follows, according to Professor Chapman:

	Per cent.
1. Warming the ingesta, food, water, and air, about	7
2. Work done by respiration, circulation, and muscular effort.	16
3. Vaporizing water from skin and lungs, about	27
4. Radiation and conduction, about	50
	100

Knowing the amounts of food, water, and air ingested, and their temperatures and specific heats, the heat absorbed by them can, of course, be calculated with some degree of accuracy, and the same may be said of the heat taken up by watery vapor from the surfaces of the body. In the case of the work done, the problem is much more intricate and the results are not so trustworthy.

It is in the items of radiation and conduction that the greatest error enters, so great indeed that the results obtained can be regarded as only approximations, and as the heat radiated is fifty per cent. of all the energy expended, any inaccuracy greatly affects the general result. There is no way of obtaining the heat radiated or conducted from a man in a given set of circumstances, and even if there were, there are so many ways in which that radiation is varied that only an estimate can be made in the case of all other men.

The one item of the kind of clothing worn exerts a vast influence on the radiation and indirectly on the food necessary to keep in health. For instance, the partially civilized Indians in the colder parts of the country, having forsaken warm furs formerly worn in winter, have taken up cheap cotton clothing, which is scarcely any protection whatever, and as the food has remained the same, the poor grade of clothing has been accused as one of the causes of the immense number of cases of phthisis they now develop.

The temperature and moisture of the air, the force of the wind, the amount of exercise taken, peculiarities of perspiration, now reduced and again excessive, and various other minor conditions, affect the heat radiated; but besides these there are personal peculiarities which deserve notice.

It is possible to place two men in the same situation in a cold climate and find that one may lose by radiation two or three times as much heat as the other. Part of this difference may be due to habit, for he who is accustomed to exposure has so drilled his nerves that they do not transmit sensations of cold as acutely as in the case of him who is accustomed to warm surroundings. As a result of this nerve benumbing, there are no rapid vascular changes through the vaso-motor nerves, the superficial capillaries remain contracted and contain but little blood to lose heat by radiation. Dr. H. C. Wood, in his book, "Brain Work and Overwork," refers to a guide who slept on the ground, during a cold night in the mountains, without any covering, not even his coat, while the doctor was enveloped in blankets.

In addition to the factor of habit, there is another individual factor influencing radiation, but due to the amount of surface exposed to cold and the condition of the man as to emaciation or obesity. In cold countries there is an immense difference in the amount of clothing worn by the residents; some, chiefly the obese, are seen without coats or gloves; while others, usually slightly built men, are muffled to the ears in furs. A thick layer of fat under the skin is sufficient to account for much of this difference. The fat prevents loss of heat from subjacent structure in the same way that the fat or blubber of warm-blooded aquatic mammals is necessary to keep them warm. In addition to the fat there is another factor—the amount of surface exposed to radiation as compared with the weight of the person. There is a well-known mathematical law, that as the size of a body increases the surface increases in the ratio of the square of the linear measurements, while the weight or bulk increases in the ratio of the cube. In other words, there is less surface exposed to radiation in an obese man than in a thin man of the same weight but of different stature. The fat man will, therefore, lose less heat per hour than the thin man, according to the same rule that a hundred pounds of red-hot iron will take far longer to cool in one mass than if it were drawn out into wire. It is this law of the relation of surface to weight, or, in other words, relation of surface to amount of heat to be radiated, that partially accounts for the well-known fact that thin men usually eat more than fat men. We constantly hear the cause given for the effect in the statement that a certain person "eats so much that he makes himself thin carrying it." In the case of the smaller animals there is another factor which antagonizes the above rule, or, rather, makes up for it. The smaller an animal is, the more rapid are the respirations, pulse, circulation, and tissue changes, from which we may presume that heat production is more rapid per pound of weight, making up for the greater proportional loss of heat from the greater exposed surface in proportion to weight. In the case of growing animals, there is great activity of tissue-change due to growth and development, and the extra heat thus produced shows why it is that children frequently require far less covering at night than adults. As a general rule, the larger the animal, the smaller the amount of food energy required and consumed per pound of body-weight.

The above facts make it evident that there is much difficulty in obtaining reliable estimates of the amount of food one man should consume, based upon data of the energy lost by another man in a certain combination of surroundings.

Variations in Daily Consumption of Food.—Observations show that the daily amount of food a man consumes is far from uniform. Dr. Flint's experiments on the pedestrian, Weston, in 1870, give an average of 339 grains of nitrogen consumed daily for fifteen days, yet the largest and smallest daily amounts were 641.71 grains and 144.70 grains, variations of eighty-nine per cent. and fifty-eight per cent. respectively from the average. It is not possible from these figures to tell what is the proper amount for a man. Pavy, in his work on food, states that the nitrogen ingested varies from 250 to 350 grains daily. Assuming 300 grains as a standard, we may be falling into the error of giving too little at one time and wasting food at another.

There is in addition an individual variation due to differences in appetite. Healthy men, performing equal amounts of work and similarly situated, are known by experience to consume vastly different quantities of food. Indeed, one man may eat so little and yet keep in presumable health, that, compared with the heavy eater, he may throw all scientific figures into utter rout. Part of this difference may be due to obesity or leanness, but again it seems to follow no rule whatever. These variations make the results, according to the second method, inaccurate to a certain unknown degree.

Inappropriate Food.—In measuring the food consumed by the poor, no account is usually taken of the fact that the food may be highly inappropriate and producing disease. Knowledge on this point is becoming more exact every year. Though we have long recognized the partial or entire dependence on the food of such diseases as scurvy, gout, rheumatism, and rickets, it is only in more recent years that notice has been taken of many other diseases which may have been due to im

proper food. Dr. Frank Woodbury, in a paper read before the Philadelphia County Medical Society, refers to facts showing a decided connection between diseases and foods, particularly the nitrogenous. For instance, cancer, Bright's disease, and acute inflammations are promoted by excess of nitrogenous foods, while anæmia, neurasthenia, atonic dyspepsia, phthisis, and eczema are favored by a deficit of nitrogen. It is possible that a carcinoma, a case of tuberculosis, or fatty degeneration, or anæmia of malignant type, may have taken its remote origin in a depressed vitality of one or more organs due to a long-continued improper or scanty diet, the organs never having recovered from their original prostration. In other words, the men whose diet is measured may be in health, but they may be undermining that health to a dangerous degree and yet not have felt any of the effects of disease. This fact is illustrated by those occasional cases of children who are fat and healthy in appearance, yet are at the time being impoverished by improper food, and shortly develop rickets. It is not enough to say that a certain diet keeps a man alive, but it must keep him in perfect health, and until the etiology of every disease is wholly known, we are uncertain, in a given case of sickness, what degree of importance to attach to the diet that may have been previously taken.

In addition to actual diseases generated by improper food, there is the lessened vitality or resisting power which may be induced. Some men will resist infection and throw off disease where others cannot. The whole life of an animal is one continued struggle against enemies, and the studies on phagocytes are showing how this struggle is kept up. The animal should, by proper nourishment, be kept in the highest state of efficiency. It is well known that among the poor disease is much more prevalent than among the well-to-do. Epidemics generally obtain a foothold among the cottages before attacking the palaces. In addition to the general unsanitary condition of the dwellings of the very poor, their scanty and often improper food may be the chief cause of their greater susceptibility to disease. In view of these facts we cannot give much scientific value to the determinations of the food of the very poor, as it probably errs not only from the proper amount, but the proper quality.

Though knowledge of how, where, and when oxidation takes place is becoming more exact, it is far from perfect. The various changes through which nitrogenous substances pass in breaking up to simpler forms are being wrought out with some evidence of accuracy, but there is much to be learned on that subject alone, and as yet we cannot be sure we are supplying the proper kind of nitrogenous food. Foods now considered nourishing may in a short time be found to be worthless. Liebig's extract of beef, beef tea, and various other substances, though of considerable value as stimulants, were but a short time ago given a high nutritive value. Similar considerations enter into the question of when oxidation takes place. Theories on this subject are changing. It was not so long ago that it was supposed that the lungs were the furnaces of the body, though it is now believed that oxidation takes place wherever there are capillaries to carry oxygen, the red corpuscles acting as the flues which supply the draught. Exact knowledge on this subject would certainly enable us to regulate a diet with much more accuracy than at present. Indeed, it may be essential to know how and where the food is burned, if we are to draw any comparisons from the stoves and furnaces. Wood in a coal-burning furnace, or coal in a wood-burning stove, may burn, but with such a great loss of efficiency that, even if supplied in abundance, it may be the next thing to being worthless as far as the supplying of energy is concerned. In like manner food may be supplied in abundance, but in such combinations that oxidation is imperfect and disease result. Oxaluria, lithæmia, rheumatism, and other affections may in part be due to just such errors.

There is to be considered also the uncertainty as to the time when oxidation takes place. The body contains a surplus of energy sufficient, providing water be applied, for the maintenance of life for two weeks, or even much longer, if we are to rely on the professional "fasters" who starve themselves for exhibition purposes. We have but little knowledge of how this surplus is drawn upon in cases where the food is insufficient, nor any knowledge of whether it is used at all where there is an abundance of food. Oxidation is continually going on, yet food is applied but thrice daily, and each day's supply may be used immediately or it may be added to the surplus store and the whole drawn upon constantly. The uniformity of the temperature of the body and the store of energy ready for use is somewhat analogous to the store of heat in some of the old cathedrals of the old world. The interiors of some of these vast structures are said to preserve an invariable temperature throughout the whole year. The heat lost or gained by the opening of doors to admit worshippers bears so small a ratio to the whole heat within, that changes are insignificant and easily rectified by other causes. The temperature of the body is uniform, though heat is being constantly lost, and the store of energy seems to undergo but little change, though being constantly used and occasionally augmented. Some knowledge of the minutiæ of the changes going on would evidently be of some service in regulating the diet. If the assimilated food is to be used at once, or should be used at once, the most economical diet would be that which could be most easily burned; but if all the assimilated food is to be added to the stores of energy, the most economical would be that which is most easily converted into the tissues of the body. The absence of the knowledge causing improper proportions and variety of food, must occasion a loss of efficiency, and the error, though it may be small, should never be forgotten. It is probable that this question of the time at which oxidation takes place may be one of the causes of the wonderful contradictions among scientists, even at this late day, on the subject of alcohol, whose food value has confidently been stated as zero, and again just as confidently given at a very high figure. Even should we know exactly how, where, and when the assimilated food is used, we would not be justified in limiting a man to the minimum quantity containing the necessary energy, but should be guided by the questions of digestibility and other variations already discussed.

Estimates of Amount of Food.—Each of the numerous sources of error may in a particular case be insignificant, and all the slight errors may happen to neutralize each other and the estimated food be proper for a man in certain circumstances. But they may all act in one direction and the estimated food be far from correct. The errors have been given different values by different men, for the following estimates of the amount of the alimentary principles required daily have a wide range: In albuminates there is a maximum of 7 ounces (Parke) and a minimum of 3.52 ounces (Ranke), or an error of thirty-three per cent. of the mean. In fats there is a maximum of 5.942 ounces (Dalton) and a minimum of 2.50 ounces (Playfair), a variation of about forty per cent. of the mean. In carbohydrates there is a maximum of 20 ounces (Playfair) and a minimum of 8.46 ounces (Ranke). Such great variations as forty per cent. are entitled to much consideration. The above figures are given, as far as possible, for men doing equal amounts of work.

Considering all the sources of error in the experiments and other methods of gaining information, we see that the probable error of the average of the determinations of food necessary for men in health is probably very large and not to be ignored. The only conclusion we can draw is, that for the present we do not know enough to make a perfectly accurate dietary. Though such a conclusion is somewhat pessimistic, we know that in time our knowledge will become much more accurate and the probable error much smaller, and, indeed, perhaps small enough to

be ignored practically. For the present, the dietary should be more liberal than the averages of the experiments demand, and broad enough to cover any deficiency due to error. Even after the most accurate knowledge is obtainable there are other considerations, as of the variability of work and climatic changes, which may prevent the proper application of that knowledge. The factors that enter into the question are so numerous and so variable that the amounts of food required for any two days may not be the same, the "personal equation" being very large.

THE CLINICAL RESULTS FROM THE USE OF PROFESSOR KLEBS'S TUBERCULOCIDIN.

By KARL VON RUCK, M.D.,

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It is still doubtful that an unbiassed hearing will be accorded to anyone who has anything at all favorable to record either from Koch's original tuberculin or from any of its modifications. Both by professional opinions, most frequently formed from general impressions derived from medical literature, and from meddlesome interference of the public press (engendering optimistic and pessimistic views in succession), the patients have been swayed from one extreme to another, and for some time past early-stage cases feared even the contact with a physician known to make use of tuberculin or its derivatives in his practice.

The class of patients who still desire its application are such who have so far advanced in their disease that death stares them in the face, and with such material little chance exists to demonstrate the value of any remedy.

I have heretofore expressed my views as to Koch's tuberculin in current medical literature, and I have nothing to add or to deduct from my statements, after eighteen months' experience with a great number and all stages and phases of pulmonary and laryngeal tuberculosis. I am absolutely satisfied that when the remedy is properly applied it is as free from danger as we could wish it to be; that it does exert a local stimulating effect upon tubercular lesions regardless of their seat, and that such an effect is beneficial and has appeared so in over ninety per cent. of all the cases who have received the remedy for a sufficient length of time at my hands. I do not say that ninety per cent. were cured by its use; indeed, the great majority of the cases treated were in an advanced stage, and a cure was out of the question before the treatment was undertaken.

I have, however, at least fourteen per cent., all early-stage cases, where, after a year, the apparent cure after cessation of treatment may now be said to be permanent. In these cases there have been no symptoms whatever since their discharge. Several cases have since suffered from la grippe, with pulmonary complications, and no relapse has occurred, and I consider this as severe a test as could be applied.

In twenty-two per cent., all advanced-stage cases, the disease has been arrested by the treatment, and the arrest, with absence of any active symptoms, with comfortable health, ability to attend to business, and in a number, with subsequent general improvement as to weight and strength, has continued a year or more.

While I have no doubt whatever that in these results the strict management in my institution, the favorable climate, and other means which were employed auxiliary to the tuberculin treatment have had a considerable share, yet I am equally free from doubt that the use of the tuberculin has had its influence (in many cases most obviously) in arriving at these results.

I can abide my time, for the profession must ultimately arrive at the truth. Unfortunately, my method of administration requires an amount of control, thorough understanding of the disease, and an absolute familiarity with physical diagnosis, which can be carried out only in an institution, and for the details of which I refer to my paper published in the *Medical News* for March 26, 1892. I emphatically protest, however, against comparisons of my claims and results with those published by observers, in whose hands the administration of tuberculin was, in my judgment, a misuse of the remedy, and whose occasional successes must be ascribed to chance or accident.

Owing to the prejudices created by the results of non-painstaking methods, often in cases where the remedy was contra-indicated, nearly always in excessive doses, as a rule in advanced stages, and never under critical control and watchfulness of the local effects produced by each dose, I have in my practice abstained from employing the remedy, unless at the positive request of patients, and then only when in my judgment there is still a reasonable hope of conferring benefit with it.

I have since a year ago watched with great interest the various modifications of tuberculin, and, satisfied that improvement in its preparation will eventually be made, I have made careful trials, particularly with the tuberculocidin prepared by Professor Klebs. Its great expense under the large doses employed was at first a hindrance to an extensive trial; recently it has been much reduced in price. I have used of this substance nearly three hundred thousand milligrammes upon twenty patients, in doses up to forty-five hundred milligrammes per day.

Without going into details of each individual case, I may say that, with the exception of two cases, they were in an advanced stage. I have seen no unfavorable influence whatever from its use, neither have I been able to observe any local effects, as is the case with Koch's tuberculin, whenever we carefully look for it.

So far as subjective or objective symptoms are concerned, it seems to make no difference whether we inject ten or one hundred milligrammes, or whether we increase from one thousand to two thousand milligrammes. Indeed, in my early experience with the remedy, I frequently suspected that Professor Klebs had not only removed the dangerous properties from the tuberculin, but that he had removed its remedial principle as well.

By subsequent observations it appeared that in 17 out of the 20 cases the cough and expectoration were diminished, the physical examination confirming this by disappearance of râles and ronchi; objectively the patients felt a greater freedom in breathing. The vital capacity increased in 11 cases, varying from ten to sixty cubic inches. In 14 cases there was material diminution of the solid constituents of the expectoration as well; it became more mucous and admixed with air. In 5 cases the expectoration was reduced to a minimum; in 2 it disappeared entirely together with the cough; these were the cases in a comparatively early stage. In 8 cases the pulse-rate was unmistakably diminished from ten to thirty beats per minute. In 17 cases the general condition of the patients was improved. Out of 5 cases who had marked fever, the temperature became normal in 3; reduced in 1; it was not influenced in 1 (far advanced with septic symptoms).

The most remarkable effect of the treatment with tuberculocidin was its effect upon the tubercle bacilli; and it was evident in every case treated. After the doses had reached five hundred to one thousand milligrammes, in a few cases even earlier, and between the second and third week of the treatment, there appeared in the sputum the form of tubercle bacilli known as "degeneration forms." They were broken up, appeared only partially stained, and frequently were indicated only by a faint outline with a few dots of stain, resembling cocci, unless the immersion lens was employed. Alongside of these well-formed bacilli were observed.

In almost every case comparison with a number of previously prepared specimens was possible, as they were pre-

served from all the weekly examinations made, and the difference was striking and unmistakable.

In four cases the bacilli entirely disappeared in the first course of twenty-eight injections, in all others the degeneration forms continued, and the number of bacilli was materially decreased.[1] This effect upon the bacilli occurred also in the three cases, in which no other favorable effect resulted; these cases were hopelessly advanced and received the remedy as a last resort at their urgent request.

In the four cases in which the bacilli disappeared entirely, they reappeared, well formed and stained in two, and disappeared upon a second series of twenty-one injections, again showing the degeneration forms under doses of five hundred milligrammes and upward when the remedy was resumed.

In the sixteen other cases the remedy was reapplied in two cases, and the behavior of the germs was similar as before, becoming this time greatly diminished in number, but have as yet not entirely disappeared. It remains to be seen what a third series of injections will accomplish for these two patients.

No such effects were observed in cases who did not receive the remedy, except in several who were being treated with Koch's tuberculin, and in these in a slighter degree. Similar observations have been made by me under Koch's tuberculin heretofore, and also in cases of arrested phthisis, apart from the administration of specific remedies. I have, however, never seen the change occur so rapidly and be so well marked.

In laryngeal and other visible tubercular ulceration (mouth and pharynx) there was not observed any reparative process, as we had witnessed in the same and other patients under Koch's original tuberculin.

Thus my experience stands to-day with the tuberculin treatment in its original as well as modified form. The latter seems more particularly to have a germicidal effect, and in that respect my limited observations confirm the claims of Professor Klebs. I believe, however, that the local stimulating effect of the original tuberculin is of the greatest value in the repair of tubercular lesions, and an intelligent combination of this with the germicidal properties of tuberculocidin would at the present time hold out the best prospects.

Both remedies can be given to the entire avoidance of any untoward effect, and the worst that could happen to the patient would be, that, alone or combined, they should prove ineffectual in producing lasting benefit. Their use will in no wise hinder the employment of climate and other rational means; their benefit, as well as that of all other means, must of necessity be only temporary, or entirely unavailiug in the far advanced and last phases of pulmonary and laryngeal tuberculosis. In the earlier stages the results will be influenced the same as is the case with all therapeutic agents, by constitution, by the acuteness and virulency of the disease process, but also by correct management and intelligent use of remedies employed, and by the conduct of the patient undergoing treatment.

Galen's Hymn to the Creator.—In my opinion, true religion consists not so much in costly sacrifices and fragrant perfumes offered upon his altars, as in a thorough conviction impressed upon our own minds, and an endeavor to produce a similar impression upon the minds of others, of his unerring wisdom, his resistless power, and his all diffusive goodness. For his having arranged everything in that order and disposition which are best calculated to distribute his favors to all his works is a manifest proof of his goodness which calls loudly for our hymns and praises. His having found the means necessary for the establishment and preservation of this beautiful order and disposition is as incontestable a proof of his wisdom as his having done whatever he pleased is of his omnipotence.—*Pettigrew's Medical Biographies.*

[1] Gaffky's method.

APPLICATION OF ANTISEPSIS IN OPHTHALMIC AND AURAL SURGERY.[1]

By MATTHIAS L. FOSTER, M.D.,

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MUCH of the wordy discussion on this subject, which leads to no definite result except the mystification, confusion, and disheartenment of those who look up to the disputants as their teachers, would be avoided if the latter would take the trouble to ascertain the definition of two words which they use so freely, and regarding which they dispute so loudly—antisepsis and asepsis. So allow me at the commencement of this paper to refer to three leading medical dictionaries of to-day in order that a firm foundation may be obtained upon which to base our discussion. The dictionaries which I have selected as representing and embodying the use of the best medical writers of the present day are "The New Sydenham Society's Lexicon," now being issued by the New Sydenham Society, London; "The National Medical Dictionary," lately issued by Lea Brothers, Philadelphia, and the "Illustrated Encyclopædic Medical Dictionary," now being issued by Daniel Appleton & Co., New York. In the first-mentioned, the "New Sydenham Society's Lexicon," the nouns antisepsis and asepsis have been omitted, so we are obliged to turn to the corresponding adjectives to obtain a definition. Antisepsic is defined "having power to prevent putrefaction;" asepsic is "not liable to putrefy." In the "National Medical Dictionary" the definition of antisepsis is subject to criticism on account of the number of cross-references which are always to a certain degree confusing, and should be avoided whenever possible. It is "use of antiseptics; condition produced by them." Antiseptic is defined as an adjective, "opposed to putrefaction; preventing growth of organisms producing putrefaction;" as a noun, "an agent possessing such power." Asepsis is defined "absence of septic poisoning." In the "Encyclopædic Medical Dictionary" the definition of antisepsis is, "a collective name for measures intended to prevent putrefaction or infection with septic material." That of asepsis is, "freedom from putrefaction or from its effects." These definitions from these authorities do not appear to me to conflict, and I shall adopt the last-quoted definition of antisepsis as the more concise and definite. If you will allow me I will repeat it: "A collective name for measures intended to prevent putrefaction or infection with septic material." According to these definitions I wish you to note that antisepsis does not necessarily mean the use of carbolic acid, corrosive sublimate, or other powerful germicide, and that asepsis is a condition, simply a condition which in a wound or in tissues exposed to septic influences can be maintained only by measures which will fall under the definition of antisepsis.

It has not been many months since I heard a gentleman, eminent in ophthalmological circles, declare that he had never become a convert to the active local antiseptic measures practised in many of the clinics, but he had become more and more careful as to the cleansing of the eye, the previous treatment of any conjunctival or lachrymal catarrh, the cleansing of the instruments, and of the hands of the operator and of his assistants. He cleanses the eye with a solution of boric acid, uses hot water and soap for the instruments, dips them in boiling water just before using, and looks after the forceps with a magnifying glass. Now what is all this preparation for unless it is to "prevent putrefaction or infection with septic material?" But if this is the purpose, this is antisepsis. Perhaps the gentleman I refer to does not call it by this name because he does not employ a powerful germicide to produce the desired result. Possibly he may call it asepsis. I have heard it called so. But asepsis is a con-

[1] Read before the Medical Society of the County of New York, September 28, 1891.

dition of absence of sepsis. It is the condition aimed at by the measures he adopts, it is not the name of the measures.

The precautions necessary to combat the tendency to suppuration vary to a certain extent in different parts of the body. The surgery of the peritoneal cavity is very dissimilar from bone surgery, yet I have heard an eminent aural surgeon speak slightingly of the use of germicides in cases of operation for mastoiditis because such use has not been found necessary in laparotomies. Is there any point of similarity between the conditions in these two operations except that in each an incision is made through the skin and muscular tissue? The laparotomist opens into a cavity lined by a highly absorbent membrane, instinct to a high degree with the phenomena of life, and seldom in a suppurative condition. Experience has demonstrated the danger of absorption of poisonous substances by the peritoneum, and the safety found in comparatively mild, though efficient, precautions. None of these conditions are found in mastoiditis. The tissues differ as bone differs from peritoneum, and a suppurative inflammation is usually present. I do not know a single general surgeon accustomed to operate on bony tissues who would be content to open an abscess in a bone with less antiseptic precautions than those afforded by powerful germicides. The precautions which are thoroughly and sufficiently antiseptic in the one case are insufficient and incompetent in the other.

There is a vast amount of superstition in many minds associated with this same antisepsis. In the ranks of those who profess themselves to be unbelievers, as well as among the believers, are many who fail to grasp the true meaning of the word, who seem to consider the germicide a magic charm by whose catalytic action a miracle is to be wrought, suppuration prevented, and immediate healing induced. Such blind reliance naturally results in the neglect of other precautions, and, inevitably, bad results. The failures of enthusiasts and the sneers of the critics who belong to this class exhibit simply their own lack of understanding. But traces of a superstitious regard peep out occasionally where we least expect to find them. The ophthalmologist whom I have quoted as declaring that he had not become a convert to certain local antiseptic measures, cleansed the eye before operation with a solution of boric acid. I do not suppose that he used the boric acid to obtain its soothing influence on an eye already cocainized; he was not obliged to use it, for he could have used pure warm water instead, so I am unable to account for his use of the drug except on the ground of a slight yielding to a germicidal doctrine which he seems to oppose.

This class of critic is repelled by the tendency of genuine enthusiasts, whom he is obliged to respect, to go to extremes, to employ measures the value of which they cannot satisfactorily explain. For example, some years ago I became mildly sceptical regarding the antiseptic value of iodoform, while persuaded that it tended to allay the pain resulting from a wound, and asked one of the best general surgeons it has ever been my good fortune to know, whether he used iodoform in his dressings as an analgesic or as an antiseptic. With a marked degree of surprise he answered, "As an antiseptic." After a little conversation in which I remarked that, although I had seen him use it daily for months, I had never seen him use it except when supplemented by corrosive sublimate to such a degree as to render it impossible to determine whether it was of antiseptic value or not, he said that he used it because he felt safer when he did so, although he could not positively say that its presence was necessary to prevent suppuration. On another occasion I asked the same gentleman why he boiled his instruments to such an extent as to injure the edge of the knives and scissors. His reply was that perhaps they were boiled longer than was necessary, but he knew that they were safe. Such answers are not calculated to dispel doubt, but rather to impel its extension to other parts of the adopted procedure, and then, by a hasty generalization, to the method itself. Practical experience has proven the method right, the error, if any, to be in the overdoing of minor details. The ophthalmic surgeon requires equally as aseptic instruments as the general surgeon, but the edge of his knife must be superlatively keen. To render them aseptic he agrees with the general surgeon in the use of boiling water, but he finds that it is not necessary in order to obtain asepsis to carry the action of the hot water to the point of decomposition of the metal. A Graefe knife plunged for one minute in boiling water is rendered aseptic, but is not dulled by the casting off of minute particles of steel from its edge, as it will be if kept in the same boiling water a considerable length of time.

Apropos of the sterilization of instruments, the ophthalmic surgeon enjoys the advantage, seldom granted any other, of being able to use his instruments direct from the boiling water. In any other branch of surgery an operation usually requires more time and more handling of instruments, so that a sterilized solution in which to keep them after boiling, and in which to cleanse them occasionally is required.

In general surgery at the present day the site of the proposed operation is subjected to a most searching application of various germicides. In many cases the skin is scrubbed hours before with soap and water, washed with a germicidal solution, and a protective dressing of sublimate gauze is applied. When this is removed on the operating-table a number of germicidal agents are employed to ferret out any lurking nidus of infection and complete the cleansing. This is right and proper. I would like to employ this preparation on every case of mastoiditis, but the ophthalmic surgeon cannot adopt this means, for a single good and sufficient reason, the eye will not tolerate it. Germicidal solutions sufficiently weak to be tolerated in the healthy eye are so weak as to cause a reasonable doubt as to their efficiency. But the eye enjoys the advantage of a continuous irrigation with an aseptic saline solution, and the temporary irrigation which elsewhere is the principal antiseptic means can here act solely as an adjuvant to the antisepsis which Nature has provided. The lachrymal fluid is able to maintain asepsis in an aseptic wound of the conjunctiva or cornea, but is not able to neutralize the effects of septic poison introduced by the finger or instrument of the operator. The general surgeon does not find the ability to neutralize such effects in the powerful germicidal solutions which he employs, and the addition of a weak solution cannot be expected to result in the development of such ability. From these facts we may perhaps deduce an explanation of the great variance in the opinons of eminent ophthalmic surgeons regarding the value of these solutions. My own opinion is this, that while the addition of a weak germicidal solution may not be absolutely necessary, it is the addition of a contributive factor to the safety of the eye and should not needlessly be omitted.

Inasmuch as in every large eye-clinic a number of cases of acute trachoma, dacryo-cystitis, and other infectious diseases will be seen every day, and as the removal of the infection communicated by these diseases to the fingers of the surgeon cannot be guaranteed by the use of soap and water, measures should be taken to guard against possibility of infection from this source. The hands of the operator and of his assistants should be thoroughly scrubbed with soap and hot water, and then plunged for at least thirty sconds in a 1 to 1,000 solution of corrosive sublimate or other powerful germicidal solution. No one should be allowed to touch the face of the patient, or an instrument, who has not thus cleansed his hands. In no other way can danger of infection from this source be avoided.

The instrument should be plunged in boiling water for about a minute and should never be wiped. It is preferable for the surgeon to take them himself from the boiling water as he needs them.

The integument of the lids and of the neighboring por-

tion of the face should be thoroughly scrubbed with soap and hot water, and may then be bathed with a germicidal solution. While the latter cannot be said to be absolutely necessary it certainly adds another contributive factor to safety. The conjunctiva should then be bathed with the chosen solution at a temperature somewhat above blood heat. If a septic inflammation be already present in the eye, the germicidal solution should be as strong as can be well tolerated. After the operation the eye should be again bathed, the lids closed, and the integument again washed with warm water. If any drops, as of atropine or eserine, are instilled the solution used should have been rendered aseptic.

Repair proceeds rapidly in the eye, and the lids when closed form an almost complete protection, so the form of dressing is not of so great importance as in some other branches of surgery. The firm application of a pad of absorbent cotton to maintain the closure of the lids is usually sufficient. After certain operations, as for squint, it is not desirable to keep the eye closed, and in these cases a soothing lotion, feebly antiseptic in character, such as a solutlon of boric acid, salt and water, or a very weak solution of bichloride of mercury, is usually prescribed, but it seems doubtful whether the value of such solutions is due to their germicidal power.

In septic inflammations of the eye another problem confronts us. The suppurative process is established and must be checked. Germicidal solutions are positively indicated, as strong as can be tolerated, with which to cleanse the eye, retards the process, and so assist nature to cast off the pathological condition.

There is no superstition in these precautions, and any man who ascribes their observance to that source fails to apprehend their purpose and should never adopt any portion of them as a sop to superstitious prejudice. He is in honor bound as a reasonable man to neglect them all.

Operations on the eye and on the ear should be performed with equally efficient antiseptic precautions, but the technique of these precautions must necessarily differ very much. In the eye operations are usually performed on tissues which are not in a septic or suppurative condition, which are continuously irrigated with an antiseptic solution, and can be protected against infection after operation by simple means. In the ear, on the contrary, most operations are performed upon tissues already septic and incapable of being perfectly cleansed, or rendered proof against infection. The problem in the one case is usually to prevent infection of uninfected tissue easily protected, in the other to remove infection from tissue difficult to protect. The ophthalmologist may perhaps learn much from the laparotomist, but the aural surgeon should rather study the teachings of bone surgery.

How to cleanse the middle ear thoroughly is a problem which has taxed, and will continue to tax, the ingenuity of aural surgeons, and I believe I am right when I say that the practical application of antisepsis to the tympanum antedates the advent of the name. As thorough removal as possible of the products of inflammation and introduction of a powerful germicide, like sulphate of zinc or nitrate of silver, into the suppurating cavity, is essentially antiseptic treatment, and that has certainly been a recognized mode of treatment for at least fifty years. This is very possibly the reason why the advent of antisepsis caused so little change in the treatment of ear diseases. The advance had already been made, at least to a certain point.

Inflammation of the temporal bone differs from inflammation of other bones only in the difficulty of access to any part except the mastoid, in its dangerous contiguity to the brain, and in its importance as containing the organ of hearing. It is the bone of the body which demands the most careful treatment when inflamed, and at the same time is probably the bone which is most subject to inflammation. Every fact in the treatment of bone disease elsewhere demands the attention of the aural surgeon. The antiseptic problems to be solved are those common to all bone inflammation. They are to obtain free drainage, cleansing, retardation of the suppurative process, and protection. In suppurative inflammation of the middle ear it is necessary to employ the drainage Nature furnishes, through the external auditory meatus and the Eustachian tube, and the same means of access must be employed for the purpose of cleansing. Germicides are needed here for the same reason that they are useful in suppuration elsewhere, they serve to restrain the pathological process and so help Nature master the disease. The surgeon may be said to be dealing with an abscess in the petrous portion of the temporal bone, with openings for access and drainage ready made. One of these openings leads to the throat, and the danger of additional infection through this channel cannot be guarded against. But it is possible to guard the other opening, the external auditory meatus, with an absorbent dressing, after the custom of the general surgeon in the treatment of similar troubles elsewhere. That such a dressing is not customary, that it would not guard against all sources of infection, and that many patients finally get well without such protection, are utterly insufficient reasons why such a dressing, which has proven so efficient in the surgery of other parts of the body, should not be employed. The beneficial results obtained from the use of boric acid in cases of chronic suppuration with but a small amount of discharge, I am inclined to attribute to its action as an aseptic and antiseptic protective dressing to the inflamed region, preventing the access of more infection through the external canal.

In the mastoid portion of the temporal bone we have a better opportunity to avail ourselves of the technique of the general surgeon. I believe that everyone accustomed to bone surgery will agree that an abscess in a bone is best treated by an incision made, with due precaution against septic infection from without, through the periosteum, perforation of the bone at the most dependent part of the abscess, removal of any loose fragments of dead bone, cleansing of the cavity with a germicidal solution, the maintenance of drainage from the lowermost part of the abscess, and the application of a dressing which will absorb the discharge and at the same time guard the wound against external infection. The same antiseptic precautions should be taken in mastoiditis which have been found valuable in similar inflammation in other bones. The hair about the mastoid should be shaved for at least two inches from the site of the incision. The integument should be thoroughly scrubbed with soap and hot water, and then bathed with a powerful germicide. The ear should be perfectly cleansed and the remaining hair of the patient should be covered with towels wet with a powerful germicide and kept completely away from the hands of the operator. The hands of the operator and of his assistants should undergo the thorough cleansing I have described, the instruments should be sterilized in the same manner and should then be placed in a five per cent. solution of carbolic acid, or some equally powerful solution which will not injure the steel. If pus is found in the mastoid cells an opening should be made in such a manner as to guarantee drainage from their most dependent portion. Caries and necrosis should be treated as in other bones. Sequestra which have become separated from the living bone should be removed, but those which are still adherent should not be interfered with, is a rule to which there are very few exceptions. The cavity should be thoroughly irrigated with a germicidal solution at a temperature above blood-heat, never cold; patency of the external wound should be maintained and perfect drainage secured by means of an aseptic drainage-tube of suitable size, or by aseptic gauze carefully and correctly packed into the wound, or by a combination of these methods, and an absorbent, protective, antiseptic dressing applied. Careful attention should be paid to the temperature of the solution with which the abscess cavity is cleansed at the time of operation and at the periodical

dressing of the wound. The bone should be sedulously guarded against being chilled.

Under no circumstances of which I can conceive could I feel it justifiable to apply a poultice after this operation. A poultice is very useful in cases of localized inflammation associated with a high degree of tension and a corresponding amount of pain, in that it causes relaxation of the tissues, thus relieves the tension and pain, and favors more rapid determination of the course of the inflammation. But after the tension has been relieved by an incision there is no opportunity for such action. If applied after the incision has been made, the poultice acts to relax and weaken the surrounding tissues and encourage them also to break down in suppuration. The acknowledged object in former days was to encourage suppuration, under the supposition that the tissues surrounding an abscess were infiltrated with a virulent humor which should be drawn out. Later research has negatived this supposition, and experience has proven that an abscess will heal more kindly if not poulticed after the incision has been made. Further, its application renders nugatory all previous efforts to produce asepsis, or an approach thereto. It is no answer to this that the abscess is septic when opened. After an acute abscess has been opened every succeeding effort is to reduce the amount of sepsis present, to render the cavity as aseptic as possible. If we cannot obtain perfect asepsis after an operation on a bone abscess we can obtain a much less septic condition, and the removal of as much septic poisoning as possible is just so much assistance to Nature to master the pathological condition. Therefore I wish to take this opportunity to protest against the employment of poultices after operations on the mastoid as a relic of the days of uncleanliness in surgery, worse than useless, dangerous.

I feel convinced that with a more definite understanding of the meaning and principles of antisepsis, and with a better appreciation of the needful variations in the technique of its application in various parts of the body, the number of dissenters from the doctrine will grow less, the wordy discussions to which I have alluded will fail, or, rather, will be replaced by debates of practical value regarding the best antiseptic means to be employed in the various operations upon these two important organs. If I shall have contributed in the slightest degree to the bringing about of a better common understanding on this subject the purpose of this paper will have been fulfilled.

7 East Forty-First Street.

Folk Medicine in Russia.—*Slovo*, of Kiév, reports some curious instances of popular doctoring in South Russia. The rural dentist places his patient upon a little stool and examines him. If an upper tooth is to be pulled he performs the operation with a simple pair of tongs like that used by cobblers. But if a lower tooth is to be extracted the operation is more complicated. The tooth is tied very skilfully with a violin string. The other end of the string is fastened to a hook in the ceiling. Then the stool is removed with a jerk from beneath the patient, who falls, his tooth remaining on the string, sometimes with the flesh around it. Intermittent fever is cured either by live frogs or by fright. When the sickness breaks out the patient is made to carry about him as many live frogs as can be put in his clothes. If that treatment does not help the patient his fellow-villagers try to frighten him. The most popular method of doing that is known by the name of Likaniye. A crowd of men and women come into the house and raise a quarrel with the patient. They treat him to the loudest and most offensive terms of reproach. That naturally irritates him, and he answers in similar terms. The crowd takes offence at his rude expressions and resolves to lynch him. A rope is put around his neck and he is dragged about until he is insensible on account of fright. —*The Sun.*

Clinical Department.

A CASE OF SUPPURATIVE HEPATITIS.

By ANDREW M. MOORE, M.D.,
Surgeon U. S. Navy.

J. W. K——, seaman, U. S. N., aged forty-four years and eight months, native of Batimore, Md., was admitted to the Naval Hospital, Mare Island, Cal., October 24, 1891, for treatment. Hospital ticket accompanying him from United States Fish Commission Steamer Albatross, gave the following history: "Phthisis pneumonica acuta? Patient has enjoyed excellent health during the three years on this ship, until September 24th ult., when he was admitted to the sick list with colica, originating from exposure to cold in the hold of the ship. Was discharged to duty in six days. He again applied for treatment, October 15th, and stated that he had not felt well since October 3d. Upon admission to the list (October 15th), he was considerably emaciated, and his strength was much impaired; appetite very poor. Since that time he has lost flesh steadily. When admitted had temperature 100.6° F.; since then his temperature has been irregular, ranging from 99.8° F. to 103.8° F.; has had chills at irregular intervals, followed by vomiting. Has had tenderness over lower border of liver, and occasional headache. Bowels generally costive; urine normal. No pain in chest, no cough or expectoration until two days ago; at present has increased vocal resonance over lower lobe of right lung, dulness on percussion, and a few moist râles."

On admission to hospital, temperature, 100° F.; pulse, 100; respiration, 30; tongue dry, and coated with brownish fur; breath, foul-smelling; slight cough with scant mucous sputum; respiratory murmur somewhat exaggerated in both lungs; crepitant râles and, at times, bronchial respiration over lower lobe of right lung posteriorly and laterally; has no pain, but there is slight tenderness in the right hypochondriac; area of liver-dulness normal; normal resonance in abdominal region and deep pressure here fails to elicit any tenderness; ingesta provokes emesis without producing gastric pain; food vomited has odor and taste (subjective) of fermentation of putrefaction; adynamia and noticeable emaciation. Ordered pepsin and dilute hydrochloric acid t. i. d., and to have a diet of warm milk.

October 25th (day after admission).—Temperature, A.M., 98.4° F.; pulse, 86; respiration, 28; tongue still heavily furred but moist; odor of breath less offensive; the patient slept soundly (first time for two weeks), and says he feels better; warm milk retained.

October 30th.—The patient has had chills, with vomiting and fever, nearly every day. There is tenderness over the hepatic region, and as this has persisted, an exploring needle (long hypodermic) was introduced about three inches into right lobe of liver at seventh intercostal interspace, on a line with the nipple, in the hope of finding an abscess, but without success; the exploration was made under antiseptic precautions, and, the parts punctured having been anæsthetized by subcutaneous injection of a four per cent. solution of cocaine, the suffering produced was insignificant.

November 2d.—No chill or emesis since October 30th. Temperature, last night, 98° F.; this A.M., 102.2° F.; pulse, 102; respiration, 30; tongue coated and moist; breath offensive; to have liq. sodii chlorinata, 1 to 8, as a deodorizing mouth-wash. Treatment by quinia and milk continued.

November 13th.—The temperature was normal for several days, but yesterday there was a chill preceded by vomiting at 2.30 P.M., with temperature, 104° F.; temperature at 9 P.M., 99.2° F. This A.M. at 7, chill, with temperature, 103° F.; occasional coughing; no pain; no profuse perspiration during or after chills.

November 14th.—Condition being unimproved, and

patient steadily growing weaker, another exploratory puncture was made with the hypodermic needle into the right lobe of the liver, to a depth of about three inches, at the eighth intercostal space, on a line with the posterior fold of the axilla, with the renewed hope of discovering a pus-cavity, and relieving the patient, but again without success; the exploration, which was made after the same preliminary preparation as in the operation heretofore detailed, was attended with but little pain, and in neither case was there the slightest appreciable resultant harm. At the autopsy, several weeks subsequently, a careful examination failed to discover any trace of the needle's path.

November 25th.—The patient has a chill every day at a different hour, with a great excursion of the temperature curve, at times as much as 8° in a few hours. He is apparently growing weaker, is much emaciated, and quite despondent, but uncomplaining, except of the weakness and the tediousness of confinement to bed.

December 9th:—About 5 P.M. yesterday, the patient was attacked with pain on coughing and on deep inspiration over the lower lobe of the right lung and in the hepatic region; examination this A.M. reveals pleuritic friction sound over the part of the lung indicated, and physical signs point to effusion into the right pleural cavity posteriorly; there is also distinct, though not very marked, swelling and œdema at right hypochondria and right side of the epigastrium, in which region there is decided tenderness on pressure, but no fluctuation can be made out. Ordered cataplasms of linseed meal.

December 29th.—The patient had a severe chill last night, and is very weak this A.M.; temperature, 98° F.; pulse, 95; respiration, 36. On account of the extreme weakness a careful examination of thorax has not been attempted, but, with exception of signs of liquid in right pleura and diminished respiratory murmur and some râles at the base of the right lung, the result of such examination as has been undertaken was negative.

January 8th.—The patient died from exhaustion to day.

Autopsy, seven hours after death. Rigor mortis, extreme emaciation, face and general cutaneous surface livid; liver *in situ*, not extending beyond normal limits, color and contour normal, weight three and one-half pounds. An abscess was found in extreme right end of the right lobe, irregularly spherical, the size of an orange; about one inch of hepatic tissue intervened between its cavity and the diaphragm, at which point the liver, somewhat swollen, was strongly adherent; the pus was creamy, apparently laudable, and the cavity was lined with a pyogenic membrane; the gall-cyst was distended with a thin greenish yellow fluid, with floating granular matter, amount estimated at four ounces. Other abdominal organs exhibited no appreciable pathological condition; heart and great blood-vessels normal; right pleura adherent to the lung, diaphragm, and thoracic wall, and contained one pint (estimated) of sero-purulent fluid; right lung œdematous throughout, grayish in color, adherent to the diaphragm, and contained three small abscesses, all located in the lower lobe. There was also some sero-purulent matter in the air-vesicles and bronchioles of the lower lobe. The left pleura was non-adherent, no effusion; lung œdematous, the lower lobe being in the stage of red hepatization, and containing four metastatic abscesses of small size.

This clinical record illustrates the difficulties which lie in the way of a correct diagnosis of suppurative hepatitis where the local symptoms are obscure, and may prove of use to others who may be confronted with similar cases. During the course of the disease there was a continual recurrence of the question, Is it hepatic abscess, septicæmia, or the intermittent form of acute miliary tuberculosis? As regards the first, the local signs and symptoms—obscure and inconstant pain and tenderness, and the absence of swelling and of increased area of hepatic dulness, were not sufficiently pronounced to insure a definitely affirmative answer, though the treatment was based upon this theory. As to septicæmia, a careful search and inquiry failed to show any septic origin, no wound, disease of bones, hemorrhoids or other intestinal lesion, and cases of so-called spontaneous origin are rare and of short duration. Finally the theory of acute miliary tuberculosis was discredited, though not entirely abandoned as a possibility, on account of the comparatively infrequent respiration, about thirty per minute.

It is a reasonable theory that the "colica" from which the patient suffered a few weeks before admission to the sick list with his final illness, and since which, apparently, he had never been quite well, was due to indigestion, and that some peccant product of this mal-digestion was carried by a branch of the portal vein into the right lobe of the liver, where it set up an insidious (as far as the local symptoms were concerned) suppurative inflammation; that this inflammation by contiguity excited a localized pleuritis and pneumonitis at the base of right lung; that eventually septic material was carried by the hepatic veins through the right side of the heart to the lungs, producing metastatic abscesses on both sides, and, in addition, empyema on the right. If this is the true explanation, there was a good chance that the patient's life might have been saved, if the abscess could have been located in time and aspirated. Unfortunately there was doubtful evidence as to its existence, and no indication as to its seat; and the two explorations were made with no other guide to the judgment than the knowledge derived from statistics that the right lobe is much more frequently the seat of suppuration than the left. It is possible that another exploration, which was proposed, might have found it, but, as the patient objected, it was thought best, under the circumstances of his weak and nervous condition and the absence of definite indications, not to insist upon it.

The case is instructive, also, in confirming experience as to the harmlessness of aspirating the liver under proper precautions, as well as in pointing out the value as an aid to diagnosis in cases of hepatic abscess with obscure symptoms, although it was of no assistance in the present instance. The obscurity and incompleteness of the local symptoms were probably due to the fact that the abscess was not very large, that it was deep-seated, and that it made slow progress toward the surface.

SOME PERSONAL OBSERVATIONS UPON A CASE OF FRACTURE OF THE SPINAL COLUMN.

By JOSEPH N. STUDY, M.D.,

CAMBRIDGE CITY, IND.

On Friday evening, August 30th, during the performance of a circus, W. L——, aged nineteen, whose general physique was seemingly almost perfect, whose occupation was that of chief tumbler in a circus, was in the act of turning a double somersault. The feat is said to be one that few men attempt to perform, and is accomplished by running and jumping from a spring-board into the air, the body being flexed to an extreme degree, and assuming as near as possible a circular shape, and going with great velocity, turning twice, alighting upon the feet upon a thick straw mattress.

In the act, the second turn was nearly completed, the performer alighting upon the mattress with his shoulders and back instead of his feet. The act was closely observed by the writer, as well as several hundred people. Paralysis was instant and absolutely complete, both motor and sensory, from the lower part of the neck, and never was there any return of either sensation or motion till death, which occurred on the twelfth day. Priapism was instantly present, and remained constant till a short period before death. The bowels and bladder were paralyzed, breathing diaphragmatic and labored. Pain quite severe when pressure was made over the fifth cervical vertebra, and any movement of the head was attended with severe pain. Careful examination failed to

detect either deformity or crepitation. Neither was there any bruising or discoloration of the parts. His temperature was taken three times a day, and upon several times registered 106° F., 106⅘° F., and 107° F., in the axilla. His urine was drawn by catheter, and on different occasions measured from six to eight pints in twenty-four hours. His appetite was excellent, and he relished even in large quantities all kinds of food, and drank enormous quantities of ice-water. Mind bright till a short period before death.

Circumstances were such that his friends deemed it best to remove the patient to a hospital one hundred and fifty miles distant, which journey was made in an express car, and was seemingly accomplished without detriment to the patient. Eight hours after entering the hospital the man became unconscious and soon expired. No autopsy was made.

Cases of fracture of the spine from muscular contraction have been reported, but in most cases with considerable doubt. In the above case my diagnosis was one of fracture of the fifth cervical vertebra; all symptoms pointed to such an injury.

Considering the extreme flexed condition of the spinal column, attended with powerful muscular contraction, and the small resisting body upon which the man fell, it would not seem incredible to believe that muscular contraction was largely the cause of the injury.

A CASE OF CHILDBIRTH COMPLICATED BY FACIAL ERYSIPELAS.

By W. B. VANDERPOEL, M.D.,

NEW YORK.

Mrs. K——, primipara, was seen January 28, 1892. Was suffering from a swelling of the right nostril and cheek, evidently erysipelatous; had for a few days before complained of general malaise and of an acute coryza, the latter probably furnishing the starting-point for her present trouble. Temperature, 101° F.; pulse, 100. She was between eight and nine months pregnant. I ordered phenacetin, gr. v., every two hours; sweet spirits of nitre, ʒ j., every four hours, and lead and opium wash.

January 29th. — Temperature, 102° F.; pulse, 100. Erysipelas has extended to the neck.

January 30th.—Temperature, 102° F.; pulse, 110. The erysipelas involves both cheeks and forehead, the eyes are almost closed, and the eyeballs are injected and irritated. I ordered boric acid lotion for them, the other treatment being continued.

January 31st.—The woman was taken with labor pains at 4 A.M., the child being born at 11 A.M. There was only slight laceration. The mother's general condition had improved, the face being less swollen. Temperature, at noon, was 99° F., at 4.15 P.M., 102½° F., and at 8 P.M., 103° F. A carbolized douche was used. The child was removed from the room and its umbilicus was dressed with iodoform gauze.

February 2d, 9 A.M.—Temperature, 102° F.; pulse, 98. Peptonized milk was the only thing retained in the way of nourishment. Dr. D. M. Stimson was consulted and approved of my treatment.

February 3d.—Temperature, 100° F.; pulse, 86. The vaginal douche is given three times daily.

February 6th, 9 A.M.—Temperature, 102½° F.; pulse, 98. Lochial discharge is offensive and dark-colored. By advice of Dr. Stimson I gave an intra-uterine injection with Chamberlin's tube, using a two and a half per cent. solution of carbolic acid.

February 9th, 8 P.M.—Temperature, 101° F.; pulse, 92. The intra-uterine douche was used only once daily for the next three days, and then discontinued.

February 13th.—The patient sat up and rapidly convalesced.

On February 18th a child in the same house, but on a different floor, in spite of all care on part of attendants, developed redness on the right side of the neck. Temperature, 102½° F.; pulse, 120. I ordered lead and opium wash, diluted one-half.

February 19th. — Temperature, 102½° F.; pulse, 140. Erysipelas spreading.

February 20th.—Temperature, 101½° F., and later 99½° F. There is a tendency to collapse. Whiskey was ordered. The erysipelas now involves all the back of the neck, left shoulder and breast, and extends down the back to and including the left buttock. The child died at 3 A.M., February 21st.

The main point of interest was that the umbilicus, although not all healed, remained free from inflammation. It had been washed daily with a solution of bichloride of mercury, and dressed with iodoform gauze.

SCARLET FEVER FOLLOWED BY TYPHOID FEVER.

By CARL D. S. FRÜH, M.D.,

PHILADELPHIA, PA.

Lulu W——, in the early part of 1889, was taken ill with scarlet fever, lasting nine days. There was no vomiting at the onset, no sore throat whatever, a temperature of 104° F. and 105° F. lasting the nine days, when a slight scaling was noticed from the left shoulder-blade.

On the tenth day, Robbie W——, aged four years (brother), was taken with a typical case of scarlet fever. Recovery took place without any special features to note.

Lulu lingered, very feeble, and did not seem to improve; when, in the third week, another chill took place, this ushered in an attack of typhoid fever. It ran a course of four weeks. Two years later, in 1891, the child was taken by an aunt to an adjoining State; scarlet fever had been in the house, three of her cousins having been ill. She was allowed to remain, and two weeks from her entry to the house she was again taken ill with this disease, this time with all the symptoms marked; desquamation was excessive; this was again followed by an attack of typhoid fever with exceedingly grave symptoms, hemorrhage lasting forty-eight hours, extreme conditions of collapse, and finally a greatly protracted recovery.

Robbie also had another attack of scarlet fever, marked in the symptoms, quite as distinct as the first attack; he also followed with typhoid fever, but being of a robust type, recovered from both conditions very promptly.

The mother, aged twenty-eight years, was ill with typhoid fever during February and March of 1892.

We have then scarlet fever and typhoid fever twice within two years, one disease following the other in the same individual, Lulu W——.

One attack of scarlet fever followed in two years by another attack of scarlet fever, and then by typhoid fever, in Robbie W——.

Brom-Æthyl Narcosis. — Gleich recalled his former communication on this subject and said that the experiments with this drug had now been used in Professor Billroth's Klinik three hundred times without a single case of death. Unhappily, however, one death has resulted recently in the ambulatorium (out-patient department) that deserves careful attention. The patient had a large carbuncle on the upper part of arm that was considered suitable for cutting. He was brought under the influence of brom-æthyl, but suddenly became cyanotic, respiration and pulsation immediately ceased; artificial respiration was kept up for one hour and a half, but without success. Professor Hofmann recorded the following in his post-mortem: Both lungs were adhering to the pleura; cardiac tissue distinctly fatty and friable; the microscope confirmed parenchyatose degeneration of heart, liver, and kidneys. The brain, however, was not hyperæmic, which is the opposite to that found in chloroform deaths. These results led to the conclusion that any narcotic would have proved fatal.

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THE MIXED LICHEN GROUP.

LICHEN, though one of the oldest terms employed in the nomenclature of skin diseases, is still a much-confused designation. Lichen simplex of the older writers no longer exists to-day; not that this form of lichen has passed away, but its name has. Cases are still seen, but they are now called papular eczema.

Lichen scrofulosus, consisting, according to Hebra, in millet-seed-sized pale yellowish or brownish elevations, situated mostly over the abdomen, chest, and back, has been looked upon by Tilbury Fox as simply a pityriasis pilaris in a scrofulous subject, and not a true lichen. The disease is extremely rare in this country, many dermatologists even never having encountered it here.

Hallopeau finds it equally rare in France, but believes it is almost always accompanied by tuberculous lesions. It has been observed to begin near tuberculous nodules in which bacilli have been found, and which injections of the Koch lymph have caused to disappear.

This author regards lichen scrofulosorum as due to a localization of tuberculosis, in subjects predisposed to it, within the pilo-sebaceous follicles, which under its influence take on a special mode of action. This predisposition is met with exclusively in young subjects.

Lichen tropicus is a term applied to the condition usually known as prickly heat. It is very common in New York, as in many other non-tropical places, especially in the summer time, and the name is misleading in another sense, for the lesions are quite as often vesicular or urticarial as they are purely papular, which they should always be, primarily, to deserve the name lichen. It would be more appropriate and less confusing to do away with the name lichen tropicus, so much employed, and substitute for it one which would indicate that the disease belonged among the affections of the glandular apparatus of the skin.

Lichen circumscriptus, as applied to papules grouped together in elevated patches, increasing by circumferential enlargement, especially situated on the back of the forearm, hand, hips, and calves, has recently been considered by Vidal as a lichen simplex chronicus. This writer regards pruritis as the primary, and the papillary formation as a secondary product, and the whole process as a neurosis. He finds that patients usually present other nervous manifestations, and recommends constitutional treatment directed to the nervous system, while anti-pruritic and occlusive dressings are used externally.

Lichen ruber and lichen planus appear to be almost as much confused to-day as they were ten years ago. Three papers were read on the question of their identity at the American Dermatological Association in 1888, and it was thought at the time that the discussion which then took place had about settled the point of their being two distinct diseases. It has since transpired, however, that one of the cases reported can be classed as psorospermosis, and others then regarded as lichen ruber now go under the designation of pityriasis rubra pilaris, which the French claim was described by Devergie, and often confounded with lichen pilaris as well as with Hebra's lichen ruber. The whole question was discussed in the International Dermatological Congress held at Paris in 1889, and Kaposi maintained that Besnier's pityriasis rubra pilaris was identical with his lichen ruber acuminatus, and he thought two diseases alone should be called lichen:

1. Lichen ruber; of which there are two varieties, *acuminatus* and *planus*.

2. Lichen scrofulosorum.

Opposing this view, Hans Hebra regarded the lichen ruber described by his father as a severe and often fatal disease, not at all to be confounded with the more benign pityriasis rubra pilaris.

Dr. Minuti, of Florence, has made a recent study from which he concludes that lichen ruber of Hebra and lichen planus of Wilson are but two varieties of the same morbid process, and may co-exist in the same individual. The essential morbid process in lichen ruber consists in a true dermatitis of the papillary layer, having its origin in the blood-vessels, the alterations in the epidermis being secondary.

Lichen miliaris is still another form of papular eruption which requires consideration. At the present time it is in a not less confused state than are the other lichens. Lavergne has called it acute lichen planus, and Dubreuille holds the same view, while Robinson looks upon it as an acute papular eczema. It is characterized by an abundance of flat papules the size of a pin's head, some of which may enlarge and form little circles surrounding a depressed centre, but the isolated papules are always in great excess of these patches. There are a variety of papular eruptions occurring in children, which at some period of their evolution simulate this miliary lichen, but according to Dubreuille the diagnosis is rendered simple by the fact that in all these affections lesions of different age and nature exist at the same time, showing the eczematous, strophulous, or syphilitic nature of the eruption. It is much to be desired that an agreement should be reached by the dermatologists as to just what cases should be included under the term lichen, and how many varieties of the disease there really are.

THE QUESTION OF A FEE.

A RICH man living in Chicago had an only son who was taken very ill with a malignant form of diphtheria. He searched the city for the best skill to be obtained in treating such a malady medically and surgically. The desired person was found. The operation of intubation had to be performed; it was done, and the boy's life was saved. Time passed, and the doctor sent in a bill for

$2,000. The rich man thought this robbery. He made inquiries around the town, and found that intubation had been often done for a much less sum. He refused to pay; the doctor has brought suit, and the Chicago profession is lamenting that there should be a question about such a fee.

There can be no doubt among just minds that the service rendered was worth all that was charged for it. Because a surgeon performs a capital operation successfully and charges nothing, it does not follow that it was worth nothing; or if he charged but $50, it does not follow that this is the fair price. Many surgical and medical services cannot be estimated in money value. The trouble with our Chicago brethren is, perhaps, that they have in the past been estimating their work at too low a rate.

IMMUNITY.

PROFESSORS BRIEGER and Kitasato, and Dr. Wassermann, working in Koch's laboratory, have found a method of preparing a substance which confers immunity to animals from infective diseases such as typhoid, diphtheria, cholera, and tetanus. The bacilli of these diseases, with their culture fluids, are exposed to the action of extracts of thymus gland at a temperature of 65° to 80° C. This kills the bacilli, but leaves in the fluid an antitoxine which confers immunity.

Immunity seems to be secured rather easily and in various ways in experimental laboratories. What is wanted is something that works in practice. Recently Dr. G. Taruffi has reported a sixth case of tetanus cured by the antitoxine of Tizzoni and Cantani, and this has an encouraging look.

ARTIFICIAL SEA-SICKNESS.

DR. GRAILY HEWETT has succeeded (*British Meaical Journal*) in producing a very good imitation of sea-sickness by means of a swing and an oscillating mirror, thus combining visual disturbance with rhythmical motion of the body. He found that in those who were "good sailors," and not in the habit of suffering from sea-sickness, there were no particular effects observed. In those who were in the habit of suffering from sea-sickness, marked discomfort was produced within ten minutes or a quarter of an hour, during which the swing and the mirror were both in motion.

The first discomfort felt was, in some cases, giddiness; in some, a fulness in the head; in some, headache; these discomforts being quickly followed by a rising in the throat, a catching in the throat, a feeling of sickness, or sensation of nausea, more or less pronounced. The exact effect differed in different cases, but the effects appeared to be always recognized as the initial symptoms of sea-sickness by the individual experimented upon. The rapidity with which these symptoms were produced varied; those who were most liable to sea-sickness were soon affected by the combined swing and mirror action. Two or three minutes sufficed in some cases to produce an unmistakable illness, and desire to discontinue the experiment. In some cases the mirror disturbance alone, and unassisted by the swing action, was sufficient to induce sensations like those of sea-sickness.

The motions which most quickly succeeded in producing a feeling of illness were, in a large number of cases, oblique oscillation of the mirror, associated with movement of the swing in an ovoid described in a vertical plane.

The downward motion in swinging seemed to be the most effective.

As regards treatment, Dr. Hewett found that the fixing of the eyes at a distance, or upon the sky, or better, simply bandaging them, would often keep off sea-sickness. Lying on the back still further helps this, as long experience has shown.

PREVENTING BLINDNESS.

AN Act for the prevention of blindness has just been made a law by the Rhode Island Legislature. It is similar to the New York State law, and Rhode Island is the first New England State to adopt it. The important paragraph is the first, and it reads as follows:

"Should any midwife or nurse, or person acting as nurse, having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse, or person acting as nurse, so having charge of such infant, to report the fact in writing within six hours to the health officer, or some qualified practitioner of medicine, of the city or town in which the parents of the infant reside."

It has been called the "Sore-eyes Bill." But as the sore-eyes in question cause ten per cent. of the cases of blindness, and is the largest single factor, it naturally deserves special, if not legislative, attention. We shall watch the results of the laws so far enacted with much interest, and trust they may prove effective.

When is a Man a Father?—Dr. W. B. West, of Fort Worth, Tex., writes: "Will you be so kind as to answer through your journal this question: 'When is a man a father?' I will state the question as it was presented to me. A lawyer of our town bet another that a friend of theirs who had just married would become a father in ten months. At the end of the ten months my friend called upon his friend for the bet, when he was informed that he had won the bet since the wife aborted at three months. Investigation proved this to be true. The question then arose, who had won. They could not agree and the medical men were called in. I took the ground that he could only be a father when the child had breathed; some as soon as the woman became pregnant. We have discussed this question several times, and I think are farther from the solution than ever. Can you not help your poor brothers down here in Texas?"

[A man is not a father until he has a child, and an abortion is not a child. The fact in such a case must take the place of an intention. We do not believe in betting on such ventures, but our gallant Texan brethren may have different views from ours on this point. We are sorry to say, however, that our correspondent has won.—ED.]

For the Palpitations and Hot Flashes of the Climacteric, veratrum viride is highly recommended.

News of the Week.

American Medical Association.—At the final General Session of the Association, held on Friday morning, Dr. J. Berrien Lindsley, of Nashville, Tenn., delivered the address on State Medicine, taking for his subject, "The People and the Public Health Movement." He began by citing a number of instances of sanitary reform, here and in Great Britain, in which it was seen that the reform was inaugurated not so much by the medical profession as by the general public, looking at first to its protection from disastrous epidemics, and next to relief from preventable diseases and improvement in daily health. It may be looked upon as an outcropping of the well-defined tendency of the times toward the elevation of the people. But, though not a medical movement, yet from the knowledge required to put it forward, medical men were naturally from the start called in by its promoters, and they soon took the lead. This is especially true in America, where, in nearly every instance of city or State progress, physicians have been the pioneers. So much is this the case that there is now some danger of the public looking upon sanitation as belonging exclusively to our profession. No greater mistake can be made. For it is law, and not medicine, that is most concerned. The prevention of disease and its cure are two very different affairs. Medical science can dictate what kind of laws should be made for the promotion of the public health, but is powerless to enforce these laws. Here the people in their individual and collective capacity must act.

Dr. Lindsley then recounted the efforts made to organize a Medical Board of Health, and spoke of the good work it accomplished at the time of the yellow-fever epidemic in Memphis, in 1879. How it came to pass, he said, that after a few years, just sufficing to prove its great capacity for good, it was starved to death, no one has satisfactorily explained. Perhaps it was owing to the fact of not being in the usual model of government offices at Washington. Had it been a bureau in the Department of the Interior, those familiar with Washington hold that it would now be in existence, and in a fair way to become a department, with or without a seat in the Cabinet. He told of the evolution of the Department of Agriculture from an insignificant branch of the Patent Office, itself a bureau in the Department of the Interior, to a department with its head a Cabinet officer, and expressed the belief that, sooner or later, a Department of Public Health will exist as a part of the national government. Among the bureaus in this department should be those of maritime quarantine, vital statistics, topographical survey, Marine Hospital Service, Medical Library, and scientific research. These matters are all attended to now by the general government under different departments, and in a disjointed and more or less imperfect manner, but their prosecution should be brought together under one responsible head. The elimination of all these offices from the departments now looking after them, in order to make up a great Department of Public Health, can take place with no injury, but rather a relief, to the present secretaries. The over-burdened Treasury Department can readily spare the United States Marine Hospital and Coast Survey. So can that of the Interior the Census Office and the Geological Survey. War has ample scope and verge enough without the Medical Library, as has the Navy without the Museum of Hygiene.

At the conclusion of Dr. Lindsley's address the usual vote of thanks was passed to the citizens and profession of Detroit, and to all who had extended courtesies to the Association, its delegates, and visiting ladies. The retiring President expressed his appreciation of the kindness and assistance he had received from the members, and then introduced the new President, Dr. Hunter McGuire, of Richmond, Va., who in a few words thanked the Association for the honor which he had received in being elected to preside at its next meeting. Dr. Fomento, President of the American Public Health Association, was then introduced and made a brief address, after which the Association was adjourned, to meet in Milwaukee in June, 1893.

Medical Legislation in New York.—This year a bill was introduced in the Senate, entitled "An Act to Incorporate the Bayard Homœopathic College and Dispensary." We suppose, says *The Post-Graduate*, the name Bayard is intended to be complimentary to the late distinguished homœopathic physician, Dr. Bayard. The doctor was a gentleman with very pronounced notions about homœopathic practice, and found himself latterly in very different therapeutical positions from so-called homœopathic practitioners of the State. Whether his friends have really anything to do with this bill, or whether it is merely an attempt to use his honored name for private purposes, we of course do not know. This proposed college was to graduate doctors of medicine after two years of study, and then their diplomas would be a license to practise throughout the State, without passing an examination from the State Board of Medical Examiners. There are other remarkable features of the bill. One requires that the college shall never teach anything but true homœopathy, which is defined in this ludicrous bill. If a more scrupulous or more intelligent class of men were sent in greater number to the Legislature, such wretched bills as these would never become laws.

A New Academician.—At their last meeting the members of the Académie des Sciences proceeded to fill up the vacancy in the Section of Medicine and Surgery caused by the demise of Professor Richet. There were three candidates—all surgeons—viz., Professor Guyon, Professor Lannelongue, well known as the inventor of the new sclerogenic treatment of tubercular and other affections, and Professor Duplay. Professor Guyon was elected by a small majority over M. Lannelongue.

The Milwaukee County Hospital.—The Milwaukee County Hospital is being investigated, and charges of mismanagement are being freely made. There is a general feeling that there has been a great deal of looseness in the management of the county hospital.—*Times and Register.*

The Woman's Pharmaceutical Association.— The Woman's Pharmaceutical Association of Illinois has been chartered, with Mrs. I. H. Roby, of Chicago, President; Mrs. Viola A. Griswold, of Chicago, Secretary; and Mrs. Cecilia Terril, of Chicago, Treasurer. Its objects, in the main, are to establish an organization of

female pharmacists, but as a secondary issue it will take in hand the matter of a woman's pharmaceutical exhibit at the World's Fair.

The Death of Dr. William R. Birdsall.—Inasmuch as by the death of Dr. William R. Birdsall, the New York Neurological Society has lost an active member, whose eminent services in our department of medicine have secured for him our highest respect, and whose many attractions of character and personality have awakened our warmest attachment; therefore,

Resolved, That we record upon our minutes this expression of our great sorrow at his untimely death; of our appreciation of his eminent ability, untiring industry, and scientific accuracy and skill; and of our tender regard for the many admirable qualities which will endear his memory to us for many years.

Resolved, That these resolutions be published in the current medical journals, and that a copy be sent as an expression of our deep sympathy to the afflicted family of our deceased friend.—M. Allen Starr, M.D., Charles L. Dana, M.D., Græme M. Hammond, M.D., *Committee of the Council.*

Dr. Charles A. Powers has been elected Attending Surgeon to the Cancer Hospital, to fill the vacancy created by the resignation of Dr. Hartley.

Dr. Gustave W. Bratenahl has been elected Assistant Gynecologist to the Cancer Hospital.

The Musical Anus.—A correspondent of the *Boston Medical and Surgical Journal* writes: "Your correspondent, K., refers to Dante's mention of a case of musical anus. I cannot compare the references now, but Montaigne, in one of his many essays interesting to medical men ("On the Force of Imagination"), gives the following: "St. Augustin (*de Civit. Dei*, xiv., 24, and the Comment. of Vives, *in loco*) speaks of having seen a man who could command his back trumpet to sound as often as he pleased, and Vives supports this statement with another example, in his time, of one who could do this in tune." The above seems to be of sufficient interest, pathological as well as literary, to be put on record."

Trinity Hospital.—Drs. Nelson H. Henry and Charles A. Powers have recently been appointed on the attending staff.

Owing to the death of its editor and publisher, Dr. J. Thacker, the *Medical News*, of Cincinnati, has been discontinued.

The San Francisco Polyclinic and Medical Department of the University of California have united.

Dr. R. W. Taylor has been appointed an Attending Surgeon to the Second Surgical Division of Bellevue Hospital, one ward (No. 10) of which is devoted to genito-urinary surgery and venereal cases.

Dr. Philip Donlin, Deputy Coroner of this city, and well known in medical and political circles, died last week.

The College of Physicians and Surgeons held its annual commencement on June 8th, and graduated a class of 116. The degree of LL.D. was conferred upon Dr. Fessenden N. Otis. Dr. T. Mitchell Prudden has been made Professor of Pathology. Dr. Robert F. Weir has been made Professor of Surgery, vice Dr. Charles McBurney, who has resigned.

Science and the Eight-Hour Movement.—In view of the recent May Day demonstration in support of "an eight-hour day," it may be interesting, says the *Lancet*, to recall the experiments by which Pettenkofer and Voit attempted to ascertain what amount of work a healthy laborer could accomplish without injury to his health. They constructed a chamber in glass which was hermetically closed. Inside they placed a wheel to which was attached a chain. By turning the wheel the chain raised a weight of twenty-five kilogrammes. A healthy, vigorous laborer was put inside this glass room; and, deducting the time required for meals, he was made to turn the wheel for nine hours a day. This was considered equivalent to hard physical work. The workman was carefully weighed before and after the experiment; the food supplied to him was likewise weighed and analyzed. Very great care was taken to make this glass room absolutely air-tight. No air could get in or out excepting through the air inlet and the air outlet. Thus it was possible to analyze the air as it went in and as it came out. Pettenkofer was therefore able to ascertain that during the nine hours' work the laborer had expended in the form of carbonic acid one hundred and ninety-two grammes of oxygen more than he had been able to inhale during that time. To cover this deficit, it was calculated that the workman must have expended twenty per cent. of the provision of oxygen stored in his system. Of course this deficit was to some extent compensated by the night's repose; but, nevertheless, the balance was not re-established. During the night he naturally absorbed more oxygen than he utilized. But as the respiratory organs work more slowly at night the process of recuperation was not sufficiently prolonged. Both Pettenkofer and Voit came to the conclusion that a night's rest was not sufficient to re-establish the normal condition after a day of very fatiguing toil. They were of opinion that the deficit might be equal to ten per cent., and in some cases twenty per cent., of the total stock of energy, and this in spite of the restorative effect of a good night's rest. It was the Sunday rest that alone could enable the body to take up the oxygen lost during the week's toil. The experiment shows clearly enough the fact that manual labor may be too hard and too prolonged. It also shows the need of Sunday rest. But it would be unsafe to compare the steady toil at a wheel in a closed glass case with the very leisurely labor of the majority of workmen who work out of doors.

Suicide During Parturition.—Recently, a case occurred in Wigan, England, where the woman, after some hours of labor, and upon the midwife telling her that it would be necessary to have the aid of a medical man, owing to its being a breech presentation, while the husband went for the doctor, left the house, notwithstanding the protestations of the nurse, and when the doctor and husband returned she was nowhere to be found. The medical man waited some time while a search was made for her, and then left. Next morning her body was found in the canal with the newly-born infant. The shock produced by sudden immersion must have caused the uterus to expel its contents.—*Lancet.*

Society Reports.

American Medical Association.

FORTY-THIRD ANNUAL MEETING.

Held in Detroit, Mich., Tuesday, Wednesday, Thursday, and Friday, June 7, 8, 9, and 10, 1892.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

E. E. MONTGOMERY, M.D., CHAIRMAN.

FIRST DAY, TUESDAY, JUNE 7TH.

Some Mooted Points in Obstetrics and Gynecology.—DR. MONTGOMERY gave the above as the title of his address. While expressing a preference for certain procedures, the paper consisted largely in pointing out what had been accomplished in gynecological practice with the forceps, improved Cæsarean section, etc. He thought craniotomy should only be elected when, 1, the child was certainly dead; 2, when still living, but repeated mechanical efforts at delivery and the physical signs indicated that the child was too feeble to long survive birth, the existence of hydrocephalus or other irremediable disease.

The Porro operation could seldom replace the improved Cæsarean section. The author briefly stated why in placenta prævia labor should not be allowed to go on to full term. The mortality to the mother was greatly reduced by inducing labor. In sepsis too much importance could not be placed upon early local antiseptic treatment with a view to prevent a spread of the disease. If the case were a puerperal one, curette, irrigate with solution of corrosive sublimate, followed by simple water, or by solution of peroxide of hydrogen. Then insert gauze. He also approved of treatment of non-puerperal endometritis by dilatation, curettement, irrigation, and drainage, one method being by gauze, the other by the stem. Reference was made to some of the advantages of the Trendelenburg posture in laparotomy, and disapproval expressed of the extra-peritoneal method of treating the stump in super-pubic hysterectomy for fibroids. The author had resorted to sacral resection in one case with satisfaction.

The Relation of the Duration of Gestation to Legitimate Birth.—DR. T. RIDGWAY BARKER, of Philadelphia, pictured the sad moral effect upon the family sometimes following the statement of physicians that the duration of gestation was limited within narrow bounds. By raising unjust suspicions, it had often led to divorce and the blighting of the life of the innocent mother and child. An analysis of a considerable number of cases of pregnancy which were supposed to have run a normal course showed that the duration varied from two hundred and forty to three hundred days or more. Pregnancy dated from conception, and this might not take place for a week or more after the deposition of semen had taken place in the genital tract.

A New Axis-traction—Obstetrical Forceps.—DR. W. B. DEWEER, of Salina, Kansas, presented the instrument and read a paper. The principle of axis-traction was conceded by all observing practitioners as correct. The day was already dawning when authorities would hold that no woman should be delivered by instrumental aid except by axis traction. But the ideas advanced for its production had been more or less conflicting, and some were fallacious. Being convinced that the idea had not yet been fully realized practically he had had Tiemann & Co. make the instrument which he presented, the only important new feature of which was in the construction of the perineal curve, providing for this in their handles, which served for axis-traction. He said it was an aseptic, simple, efficient, and economic instrument. Leaving the blades and shanks with the usual outline to the perineum, he there bent the handles at a somewhat acute angle backward, then again at an obtuse angle to form the hand-grasp in line with the blades. The instrument did away with the complicated, cumbersome, and expensive attachments of the Tarnier and other models. The indicator was thus constantly in the sentient hands of the operator, who at every moment knew through his *conscience musculaire* the direction of traction as well as the resistance.

Report of Cases of Albuminuria of Pregnancy Treated by Chloroform Internally.—DR. J. MILTON DUFF, of Pittsburg, was induced to try chloroform in the albuminuria of pregnancy by a favorable report upon it in the *Southern Medical Journal*, by Dr. A. W. Griggs, in 1890. Dr. Duff related five well-marked cases, in most of which there were convulsions, in some œdema of the legs, coma, in all albumin in the urine. The amount of chloroform given was about fifteen grains, sometimes as often as every hour. The histories of the cases were given in detail, all of which terminated without loss of life to the mother, the albumin disappearing from the urine after labor. Usually relief of the symptoms followed within a few hours, and the quantity of urine if previously diminished, became increased. The author did not attempt to explain this increase, nor, indeed, the action of the chloroform in any sense in these cases. One of the patients was apparently rendered worse by the treatment. In none of the cases was labor induced.

DR. JOSEPH TABER JOHNSON and DR. MCELWAY expressed disapproval of allowing cases of well-marked puerperal albuminuria with active symptoms run along to the great danger of the patient. Labor should be induced as soon as convulsions commenced or threatened.

DR. DUFF replied, in closing, that it was not his intention to advocate chloroform in the albuminuria of pregnancy in opposition to the artificial termination of labor. As there were circumstances in which one might not induce labor, he had tried the internal use of chloroform with a view to determining its real value.

Judging from his slight experience it would prove useful in some, negative or harmful in others. Perhaps this was due to a difference in cause of albuminuria of pregnancy in individual cases. Being asked whether he had tried chloroform in the albuminuria of Bright's, he said that through the kindness of friends it had been tried in nine cases, with the result, in all, of making the patients worse.

Interference in Delayed Labor.—DR. GEORGE C. MOSHER, of Kansas City, opened his paper on this subject with a reference to some of the peculiar methods resorted to by uncivilized races in delayed labor, and passed to a review of those recommended by lights in the profession to-day. A warm drink, or tea, generally recommended by the laity, was harmless, might do some good through its slightly stimulating effects, and should not be discountenanced, as it led the friends and patient to feel that something was being done. Objections were offered to the use of ergot at this stage. Chloroform by the rectum might prove useful. There were also circumstances under which a hypodermic injection of morphine with atropia was indicated, especially in primipara in whom the contractions, which at first were powerful, had become feeble, give nature a chance before resorting to forceps. The greater his experience became, the less frequently did he find it necessary to use instruments. Of course no case should be allowed to go to exhaustion before resorting to energetic means. In advocating conservatism in the use of forceps, he did not mean timidity. His object in writing the paper was not to advance any new theory or method, nor any hobby, but rather in referring to well-known methods to elicit a discussion on the best.

This paper and the next were discussed together.

The Treatment of Posterior Rotation of the Occiput During Labor.—DR. EDWARD P. DAVIS, of Philadelphia, read the paper. Under posterior rotation he included what American writers meant by the posterior position.

It was simpler and more intelligible to speak of only two positions, first and second, as did European writers. In the vast majority of the cases during labor the occiput turned toward the symphisis, but occasionally it turned posteriorly, giving rise to what had been termed the posterior position. In some cases an unusual mechanical condition in the pelvis or child's head caused the unfavorable posterior rotation, but often no cause could be found.

Normal rotation of the head required, 1, a normal proportion between the size of the head and pelvis; 2, a flexed position of the head; 3, normal forces, *i.e.*, normal contractions of the uterus and resistance offered by the pelvic floor. If anyone of these were absent, perversion of rotation was likely to occur. The author urged the necessity for early measurement of the pelvic canal in all cases of pregnancy, and if normal labor at term was found to be impossible, resort to induced labor. The author disagreed with those who saw little or no value in the pelvimeter, and presented an instrument made by Tiemann & Co.

If possible, when the occiput was posterior the head should be turned without a resort to forceps. This could sometimes be done by giving a little chloroform, and introducing the whole hand, palm placed over the vertex, position corrected and retained until a contraction took place. One should also take advantage of posture. For instance, the posture often assumed by women, kneeling forward upon the bed, favored anterior rotation. Where the expulsive efforts were at fault, tea, coffee, alcohol, anæsthetics, etc., might restore unity and tone. The author showed forceps, and emphasized the necessity for their proper application when their use was a necessity. Where normal delivery was impossible, conservative Cæsarean section might be indicated before the head had become impacted and made craniotomy necessary.

Those who discussed the papers agreed in general with the authors, except Dr. C. R. Reed, of Iowa, who admitted using the forceps a great deal in delayed labor, and said that he had had no occasion to regret it. His practice, however, met with decided disapproval from the others.

Dr. Davis said an enema or laxative often hastened a delayed labor. He urged that there were only two indications for the use of forceps, *i.e.*, danger to mother or danger to child.

Second Day, Wednesday, June 8th.

Delivery through the Abdominal Walls versus Craniotomy.—Dr. George J. McKelway, of Philadelphia, quoted the opinions of A. P. Dudley, E. H. Grandin, and of others, mostly in favor of selective Cæsarean section *versus* craniotomy. This was the firm ground taken by the author. It had become a question less of taking one life to save another, than of adding slightly to the risks for the mother in order that both lives might be spared.

The author thought craniotomy or embryotomy justifiable only where the child was dead, or was a hydrocephalic monster. The need of an early examination in pregnancy was emphasized.

The ground taken by the author was that upon which Drs. Newman, E. P. Davis, Reed, Wathens, Barker, Zincke, and L. Smith, stood, while Dr. Ashton held that the mother should decide whether craniotomy or laparotomy should be performed. Dr. Rohé, of Catonsville, Md., thought the question not so simple as to permit of being answered by the general statement that we were not justified in taking life. For instance, a woman having been subjected to ineffectual efforts at delivery for two days, was not in condition to undergo a capital operation like Cæsarean section, and one would have to decide according to the case whether he should or should not destroy the child by craniotomy. Each case should be decided on its own merits.

Impairment of the Voice in Female Singers Due to Disease of the Sexual Organs.—Dr. C. H. Leonard, of Detroit, had found scarcely any mention, aside from a paper by Von Klein, of Dayton, of changes in the voice of singers due to disease of the uterus or ovaries. Dr. Von Klein had laid principal stress upon disease of the ovaries in causing such change of voice, whereas Dr. Leonard thought disease of the uterus was the principal cause either in itself or as productive of ovarian change. Several cases had come under his observation in which singers had regained their voice by relief of uterine trouble, and in two laryngeal spasm occurred at every uterine application. He attributed the laryngeal trouble to reflex action, tracing the connection through the sympathetic system supplying the uterus, to the pneumogastric, and finally to the spinal accessory supplying the larynx.

Hysterical Mania as a Complication of Gynecological Cases.—Dr. Ely Van de Warker, of Syracuse, read the paper. Without attempting to say what was hysteria, he expressed the belief that its phenomena were manifest in the intellectual field. The bodily conditions leading to it were largely subjective. The term hysterical mania, therefore, was not used in the sense of a diseased mind originating in a delusion, but rather that the mind had lost the power of diverting itself from certain fixed ideas about which it circled in an endless iteration. Mental function might be perverted without apparent organic disease. While asserting that hysterical mania manifests itself along certain distinct lines which enabled the gynecologist to distinguish such cases from true mania, yet the author observed that asylum superintendents, for want of training in general or certain lines of special medicine, grouped the several classes of cases together to the great detriment of the hysterical patient. He believed that ten per cent. of females under thirty-five who were inmates of asylums could be restored to society by proper treatment and removal from the influence of the insane. Removal from the asylum was essential to recovery on account of the imitative tendency of hysterics. These points led the author to condemn the existing laws, in New York particularly, which often led to the appointment of asylum superintendents who had no knowledge of gynecology and other specialties, and made no provision for giving inmates the benefit of the advice of those trained in medicine aside from asylum experience.

The author related some cases of hysterical mania cured or greatly improved by gynecology. Referring again to neglect of attention to disease of the genital organs of women on the part of asylum superintendents, the author said reform must start from indignant protests on the part of general practitioners rather than from managers of the institutions.

Influence of Parturient Lesions of the Uterus and Vagina in the Causation of Puerperal Insanity.—Dr. George H. Rohé, of Catonsville, Md., read a paper on this subject. Four cases were reported, in each of whom there was rupture of the perineum, laceration of the cervix, and morbid conditions of the ovaries and tubes. In all, laparotomy was performed and the uterine appendages removed. Two of the cases, one of ten weeks' and the other of eighteen months' duration, recovered their normal mental condition after the operation. The other two cases, both of five years' duration, and in a condition of partial dementia, were very much improved.

The cases are held to justify the following conclusions:

1. Puerperal insanity is, in at least the majority of cases, an infection psychosis.

2. Without rejecting the influence of other factors, such as heredity, anæmia, exhaustion, mental shock and distress, careful observation will show that few cases of puerperal insanity occur without preceding or coincident puerperal infection.

The reasons for this opinion may be briefly summed up as follows:

1. Puerperal insanity occurs in the great majority of

cases within the first ten days after delivery—about one-half in the first five days—the same period during which puerperal infection usually occurs.

2. It is usually accompanied by elevation of temperature and other evidences of febrile disturbance.

3. The clinical form in which puerperal insanity manifests itself is, in the majority of cases, that of acute delirious or confusional mania. Depressive states are rare except as secondary forms. In other words the most frequent condition is one most closely resembling febrile delirium.

4. The death-rate is much higher than in simple mania. Death occurs from exhaustion, usually with high temperature and rapid pulse.

5. Post-mortem examinations, though apparently infrequent in these cases, have shown grave involvement of the pelvic viscera.

6. Examinations of the pelvic organs during life show lacerations of the perineum and cervix uteri (facile channels of infection in the puerperal woman). As secondary conditions, are found intra-pelvic (peritoneal) inflammations, and consequent abnormal locations, fixations, and congestions of the uterus, tubes, and ovaries.

7. The results of operations seem to show that removal of local sources of irritation increases the chances of recovery from the mental disease.

The two papers were discussed together. Dr. Rohé said that to an extent Dr. Van de Warker's restrictions upon asylum managers were just, yet in Michigan, as well as in Maryland, if not in other State asylums, attention of recent years was being given lesions of the genital tracts, etc., in insane patients, with more or less happy results, as indicated in his paper.

Officers Elected.—*Chairman*, Dr. John Milton Duff, of Philadelphia; *Secretary*, Dr. M. B. Ward, of Topeka; *Executive Committee*, Drs. Montgomery, J. T. Johnson, and Eastman.

The Prevention of Stitch or Mural Abscess and Ventral Hernia Resulting from Abdominal Surgery.—Dr. W. H. Wathen, of Louisville, read an abstract of his paper on this subject. He believed these troublesome and sometimes dangerous complications might be usually prevented. Incision should be by knife, if possible through the linea alba to prevent injury to the muscles; scissors should not be used unless in dividing the peritoneum, nor hæmostatic forceps if it could be avoided; he now seldom used either. Retractors were seldom needed, and were liable to do injury by bruising the tissues. The peritoneum should not be separated from the walls. Injured tissues should be cut away. Select a stitch which would most likely avoid abscess and hernia. He preferred the following method, which he did not claim to be at all novel: With a straight or curved needle, begin at the lower end of the wound and close the peritoneum with continuous stitch; the deep fascia was next closed, in the same way, then the superficial fascia and fat. The suture was then cut and the end buried. The skin was united by superficial sutures of silk-worm gut. He preferred kangaroo tendon to catgut because they were more easily made and would not be absorbed until union was perfect. The dressing should be held by adhesive plaster, and should be strictly aseptic.

The Operative Treatment of Ventral Hernia Resulting from Abdominal Surgery.—Dr. Tod D. Gilliam, of Columbus, read this paper. The technique which he had adopted would, he said, be recognized as an old-time friend in a new garb, and consisted in denudation of an elliptical surface, turning in the redundant tissue, and uniting by suture; being similar to the operation for cystocele. The preliminary treatment was important—strengthening the patient, avoiding flatus, baths, washing of the abdomen a number of times and for days previous to operation, Trendelenburg posture once or twice daily, etc.

Persistent Sinuses Resulting from Abdominal Section.—Dr. Andrew F. Currier, of New York, treated of this subject. First he dwelt upon the natural reparative powers manifest in sinuses and injuries Where a sinus formed or persisted the causes were, 1, constitutional; 2, irritant; 3, septic. The term predisposing might be more appropriate than constitutional. Among irritative agents were drainage-tubes, sutures, etc. The treatment was expediency, palliative measures, and radical measures. Nature not infrequently cured the sinus if one kept up the patient's nutrition. Recent more radical procedures might even fail. Violence in applications or operations should be avoided.

A prolonged discussion followed on the three papers.

Dr. E. W. Jenks did not believe abscesses were always due to sepsis, for with the most scrupulous care he still sometimes had abscesses; they seemed to come from within rather than from without, from the constitutional condition. Idioform had no value except for its perfume. He preferred glass to gauze as a drain.

Dr. McMurtry, of Louisville, had had but one case of ventral hernia following operation. Yet early in his experience he frequently had mural abscess, seldom later, because experience had enabled him better to carry out asepsis. Abscesses, he believed, were due more frequently to defective aseptic work than to strangulation. A potent factor in causing ventral hernia was in allowing the patient to get up early, say by the tenth day. The drainage-tube played only an unimportant part.

Dr. S. C. Gordon, of Maine, opposed the use of the drainage tube as unnecessary, for the operation should be aseptic. Where sepsis was present in the cavity he used bichloride solution.

Dr. J. H. McIntyre, of St. Louis, spoke strongly for the drainage-tube. How were we to know that the cavity had been rendered aseptic. He would expect as much harm from bichloride in the abdomen as from possible septic matter. He used the drainage tube constantly, yet had had but two cases of mural abscess in six years.

Dr. R. B. Hall also advocated the advantages and harmlessness of the drainage tube in abdominal operations.

Dr. G. M. Edebohls, of New York, thought that without the introduction of sepsis, mural abscess would not occur. Chromatized catgut was more durable and better than kangaroo suture in closing the abdominal wound. He used silk-worm for deep sutures, catgut for the superficial. In operating for hernia, it was not sufficient simply to bring the edges of the muscles together; they should be made to overlap, and the fascia be united separately.

Dr. E. Ricketts looked upon the drainage-tube in abdominal surgery as the governor to the steam-engine. Yet he would not drain in every case. Mural abscesses arose oftener from within than from without, or the introduction of sepsis.

Dr. Willis P. King, of Kansas City, drained whenever he flushed the abdomen, for the same reason—fear of leaving something foreign. Formerly he had had herniæ, but none since he began to unite the parts separately.

Dr. W. E. B. Davis, of Alabama, objected to the use of antiseptic fluid in the peritoneal cavity, as where some septic material was present it was more likely, because of irritating properties, to cause peritonitis, whereas without such irritant the peritoneum could better dispose of the septic material. The drainage-tube had perhaps been used where it could have been dispensed with, but it was comparatively harmless, and those who used it frequently got better results from it in cases really demanding it than others, because of greater experience.

Dr. Gilliam said Dr. Edebohls had obtained an erroneous idea of his operation for hernia in supposing that it included lapping only of the skin. He included muscle and fascia.

Pathology of Intestinal Obstruction Following Abdominal and Pelvic Operations.—Dr. W. E. Ashton, of Philadelphia, read the paper. The causes of such obstructions were, 1, adhesions between the intestine and

raw surfaces; 2, paralysis of the intestine; 3, local spasms of the intestine; 4, impacted fæces; 5, dense inflammatory lymph; 6, adhesions between coils of intestine, or between the gut and neighboring parts, due to traumatic inflammation; 7, kinking of the intestine due to faulty surgery; 8, including loop of intestine in suture; 9, slipping of coil of intestine into abdominal wound, etc.

Cases were cited, a few in the author's experience, illustrating these different forms. By far the greater number of cases of obstruction fell under the first class, being due to adhesions between the intestines and raw surfaces. He thought that if the raw surface was near the normal situation of the coil, obstruction was less likely to take place should adhesions form. To prevent a peristalsis, the present practice of preceding the operation by salines was a good one; tympanites should be avoided.

The Influence of Delayed and Incomplete Operations upon Mortality in Pelvic Surgery.—Dr. L. S. McMurtry, of Louisville, read a paper with this title. Among conditions in which delayed or incomplete operations had proven disastrous, pus-tubes and fibroid and other tumors stood out conspicuously. It had been shown by Dr. J. T. Johnson that fibroids of the uterus often went on to cystic and malignant degeneration after the menopause.

Tubal pregnancy had frequently resulted fatally by delay. Who would wait and temporize if the femoral artery were divided? In ruptured ectopic pregnancy, one should cut down at once and arrest hemorrhage. Regarding incomplete operations, while the exploratory incision was of great importance, yet where a pathological condition was found one should not only attempt its removal, but complete the procedure. His object in writing the paper had been, he concluded, to impress promptness and thoroughness in applying advanced principles of surgery.

THIRD DAY, THURSDAY, JUNE 9TH.

The discussion of the papers read by Drs. Ashton and McMurtry was taken up.

Dr. E. B. Massey, of Philadelphia, took exception to the general statement that disaster was usually to be attributed to delayed or incomplete operation. He believed, on the contrary, that greater conservatism was called for with regard to proceeding to major abdominal surgery. He had known many patients submitted to a major operation cured only after they had gone to a general practitioner for other treatment. He predicted that the time would come when serious interference with abdominal and pelvic cavities would be limited to cases in which pus had been demonstrated to exist. He had recently been making use of the electric light in diagnosis here. Healthy tissues transmitted the light better than diseased, better than pus or necrotic tissue. Strong electric light in the vagina, in a dark room, would illuminate the tissue as far up as the umbilicus. Thus he had recently been able to differentiate between tubal pregnancy and pus in the tube.

Dr. Hall cited a case to show that there was usually too great delay among general practitioners in calling in the operating gynecologist.

Dr. Joseph Taber Johnson further emphasized the evil consequences of delayed operations, particularly in uterine fibroids. The opinion had prevailed that these would cease to give trouble with the appearance of the menopause, but it had been shown by himself and others that instead of receding the tumors took on malignant degeneration and made an operation much more dangerous in itself and less likely to prove successful. These papers would prove very useful in calling attention to the causes of our failures.

Drs. F. H. Martin and Ricketts called attention to some measures for preventing the pathology of obstruction. Dr. Ricketts found strychnine to overcome intestinal paresis.

Dr. W. E. B. Davis, of Alabama, dwelt upon misplacement of the intestines as a cause of obstruction. Obstruction oftener followed operations in which the intestines were taken out of the cavity than in other cases.

Tolerance of the Peritoneum.—Dr. E. P. Davis thought it important, in the line of preventing adhesions, to know what substances were least irritating to the peritoneum. The French had found that iodoform was least irritating, next was boric acid; the peritoneum over the liver was less irritating than elsewhere.

Dr. Ashton gave one-fifteenth of a grain of strychnia four times a day for about three days before and after abdominal section in order to obviate intestinal paresis and tympanites.

Micro-organisms in the Diseased Endometrium and Surgical Interference.—Dr. Ernest Laplace, of Philadelphia, based this paper upon some studies which he had made in Koch's laboratory in 1887. From those studies he concluded, 1, that the normal mucous membrane of the uterus and cervix is a harbor for vast numbers of micro-organisms, most of which are known to us, some unknown, yet are poisonous to guinea-pigs; 2, the inflamed membrane contains the same kind of micro-organisms, but the vast quantities of superficial exfoliating cells also contain them; 3, in chronic endometritis, besides the secretions containing infectious micro-organisms, the mucous membrane and fibrous tissue became greatly hypertrophied under the continuous development of these organisms. In this chronic condition, whether simple or gonorrhœal, the germs were also in the epithelium and fibrous tissue. The uterus with normal secretions did not favor the development of the pathogenic micro-organisms. A most frequent cause, giving rise to a condition favorable for their development, was cold with congestion and pouring out of serum. The treatment which suggested itself was removal of the cause, curettement and cleansing of the uterus, sterilizing of the mucous membrane, and, he might add, drainage by gauze. For sterilization he recommended acid sublimate solution.

The discussion was participated in by Drs. Massey, McKelway, C. R. Reed, Albert Vanderveer, R. T. Morris, Nelson, S. C. Gordon, Ashton, W. E. B. Davis, L. Smith, E. P. Davis, and others, most of whom dwelt upon the treatment of endometritis.

Dr. Massey thought it had not been proved that germs existed within the uterus under the normal condition; spoke of electrical treatment with decomposition of a chemical for antiseptic purposes.

Dr. Vanderveer emphasized the value of treatment by dilatation, thorough curettement during inflow and outflow of boric-acid solution, and packing with gauze.

Dr. R. T. Morris felt great security with peroxide of hydrogen and gauze.

Hysterectomy Without Pedicle.—Dr. S. C. Gordon, of Portland, Me., read this paper. He believed the only appropriate treatment for fibroids of the uterus was total extirpation. Electricity and removal of the appendages might get relief, yet the tumor remained.

Hysterectomy in these cases would come to be as safe as ordinary ovariotomy. It had so proven in his hands. He advocated total extirpation. He ligated the broad ligaments on each side, proceeding down to about the uterine artery, with over and over suture, closing the folds of the ligament as it was cut free from the uterus. As the uterine artery was approached he dipped the suture below this and secured the artery within the loop before division. At this time he divided the peritoneum from the uterus in front and behind, separating it from the bladder and utero-sacral attachments. These attachments of the peritoneum in front and behind were easily held up by forceps until the attachment of the broad ligament on each side was completely separated and secured by suture, this being continued across the vaginal opening by uniting the flaps of the peritoneum. This closed the roof of the vagina, and the uterus could be lifted out. The most troublesome part of the operation consisted in securing the uterine artery and dissecting the uterine

attachments to the bladder and vagina, especially when the cervix was very long, because of the time required.

In one case he had secondary hemorrhage at the end of two weeks, which proved fatal.

"The Technique of Hysterectomy for Fibroids" was discussed by Drs. Eastman, Van de Warker, Martin, McIntyre, Nelson, J. T. Johnson, Hall, and Baer.

Dr. Johnson thought one should not limit himsef to any one method for all cases, but should familiarize himself with all and apply them as best could be done in the individual case.

Dr. Baer and some others thought it best to retain the normal contour of the vagina by leaving the cervix.

Dr. Van de Warker objected to operating in all cases, for some women carrying fibroids were in no wise sufferers. He thought Gordon's operation was essentially Freund's.

Dr. Nelson referred to what he had before said in favor of ergot in some cases. He thought electricity acted in the same way, by influencing the circulation.

Dr. Gordon said his operation was a suture operation, while Freund had used ligature—an important difference. All women with fibroids suffered, and should be operated upon. He had operated by this method in about twelve cases, with two deaths, including the one with secondary hemorrhage.

Combined Gynecological Operations.—Dr. George M. Edebohls, of New York, read this paper. The tendency of modern gynecology is to progress in a surgical direction. The uncertainties and unreliability of other methods of treatment, as compared with the results obtained by surgical measures, are proverbial. With the rapid strides forward of surgical gynecology, this contrast is daily becoming more accentuated. Increased confidence in results growing from increased experience and progressive skill will incline the individual operator more and more to trust to surgical resources. Many cases require more than one gynecological operation to effect a cure. All gynecological operations required in a given case should, at the present day, as a rule almost without exception, be performed at the same sitting. The patient has a right to expect this from the expert claiming to possess the highest degree of operative skill. That this will be the standard of the near future, the author does not doubt. Success in combined gynecological operations presupposes, first of all, perfect asepsis and a not too prolonged anæsthesia. The duration of the latter need but very rarely exceed one and a half hour, even in the most difficult cases. Other things necessary are the requisite degree of operative skill and dexterity, sufficient and efficient assistance, a perfected technique of the various operations attempted, and an instrumentarium suitable to rapid work. The author described his instrumentarium and the technique of the various gynecological operations as practised by him.

Combined gynecological operations may be divided into two general classes: 1, Combinations into which a laparotomy does not enter; 2, combinations of which a laparotomy forms part.

The expert operator should be able to perform any required combination of operations of the first class within the time limits of safe anæsthesia. The same statement holds good of the combinations of operations of the second class into which a simple laparotomy enters. When a difficult laparotomy forms part of the combination, the patient's interests may occasionally be better served by operating at two sittings. Examples of combinations of both classes were given from the author's practice. To cite but one example, the author had a number of times, in cases of complete procidentia uteri, performed curettement, amputation of the cervix, anterior colporrhaphy, colpo-perineorrhaphy and ventrofixation of the uterus at one sitting, doing the five operations within seventy-five minutes. As a result of his experience and success with plastic work, he considered total extirpation of the uterus for prolapsus justifiable only under very exceptional conditions. There is no excuse for a mortality in combined operations of the first class. The mortality of combinations into which a laparotomy enters will depend upon that of the special intra-abdominal operative interference required.

The author concluded his paper with a frank recital of all his failures in combined gynecological operations.

Five Cases of Ovarian and One of Uterine Tumor with Twisted Pedicle.—Dr. Joseph Taber Johnson, of Washington, read the history of the cases. The histories were similar in many respects. In only one had he diagnosticated twisting. In two pregnancy was supposed to be the cause of enlargement. In all, symptoms of pain, elevation of temperature, and increased pulse came on suddenly. In all the patients were apparently *in extremis*. In all he found a tumor with twisted pedicle, in five an ovarian tumor, in one a fibroid, growing from the side of the uterus to which it was attached by a band about two inches wide. The peritoneum was dark, the tumor black, its circulation almost completely shut off by the twisting of the pedicle.

Notwithstanding the fatal issue staring him in the face, all the patients recovered. Out of two hundred laparotomies performed by himself, and two hundred or more seen at the hands of others, these six were all in which twisted pedicle with strangulation was present. One valuable lesson learned was that, had these tumors been recognized early and removed, the patients would not have been exposed to the risks of sepsis attending twisting of the pedicle.

Fourth Day, Friday, June 10th.

Vaginal Hysterectomy for Cancer of the Uterus Complicated by Pregnancy.—Dr. Albert Vanderveer, of Albany, showed in this paper the very great mortality in cases of carcinoma of the uterus, complicated by pregnancy, without operative interference. No other disease presented a darker picture. He had done vaginal hysterectomy in one case, at the second month, the mother recovering. There had been fifteen other cases reported, all successful. Briefly the treatment of carcinoma of the uterus might be summarized as follows: In all operable cases where the pregnancy was not advanced beyond the fourth month, do a vaginal hysterectomy at once. In all operable cases between the fourth month and term, as a rule, complete extirpation of the uterus by Freund's method, as modified by Zweibel, and in inoperable cases delivery at term, or a supra-vaginal hysterectomy of the pregnant uterus.

Porro's Operation.—Dr. E. P. Davis remarked upon the important fact in connection with this paper that, by improved incubation, etc., the date of viability of the child had come to the twenty-eighth week or earlier. Where the pregnancy had gone to the point of viability, he recommended Cæsarean section, putting iodoform into the vagina before making the incision, thus preventing in a measure infection of the wound from the vagina.

A Report of Experiments Germane to the Subject of Abdominal Supporters After Laparotomy.—Dr. Robert T. Morris, of New York, gave the results of experiments upon rabbits, going to show that in laparotomy operations the structures should be united separately. It took only seven days for the united peritoneum to become as strong as normal; about fourteen days were required for complete repair of the muscular and fibrous walls. The skin became of full strength at the end of eighteen days. He argued that it was absurd to apply abdominal supports after laparotomy for the purpose of preventing hernia if the surgeon had done his suturing aright. If the suturing were wrongly done the supporters would still be useless. The author used only catgut for sutures and ligatures. He had not had as yet any hernias after laparotomy, and would feel that it was his own fault should he have any. He explained the necessity for four tiers of sutures after appendicitis operations.

Dr. A. F. Currier had adopted the measure laid stress upon by Dr. Wylie, of introducing a separate line of sutures in the fascia. The last two years he had made the incision, not through the linea alba, but through muscle. He had long thought the ordinary abdominal supporter was of little value after laparotomy. He did, however, apply a broad strip of rubber adhesive plaster, and believed it gave greater security against hernia.

Dr. McKelway, of Philadelphia, thought Dr. Morris was right in the assertion that where union took place a supporter would not be necessary, but he had admitted weakness in cases in which an abscess had formed, and how were we to know that some source of weakness was not present in operations on patients. He emphasized the exceeding importance of uniting fascia to fascia.

Colpo-Perineorrhaphy.—Dr. Edward W. Jenks, of Detroit, in this paper gave some general considerations of tears of the perineum and their repair, and then described the method of operating which he had practised for fifteen years or more with slight variations. The first description which he had given of his method, which he admitted may not have been exclusively original with himself, was published in the *American Journal of Obstetrics* fifteen years ago. Since then he had performed the operation much oftener than one hundred times, and naturally during so large an experience had made some improvements.

Four important things were to be attained in secondary operations upon the perineum: 1, to repair the loss of power and function of the lower portion of the rectum and vagina; 2, to restore the normal sustaining quality of the posterior vaginal wall for the anterior vaginal wall and bladder; 3, to provide as much support for the uterus as the perineum naturally gave; 4, to cure the many distressing symptoms of which these patients complained. Any surgical procedure which did not accomplish these results was not successful.

He called his operation colpo-perineorrhaphy, because it was more than an operation upon the perineum alone. To secure the best results it was necessary that the skin flap extend as high within the recto-vaginal septum as there were signs of slack or redundancy of the posterior wall. While this was the most essential feature, yet he laid some stress on the method of introducing the sutures, although he admitted that the denuded surfaces could be coaptated by sutures introduced more or less variously, and coaptation was the essential point. He employed scissors for denudation and silk-worm gut for suture, but admitted that silver wire, except for certain objections, was the ideal suture. In his operation, unlike in most others, the first two sutures were the longest and most important. The first entered half an inch from the commencement of denudation and came out where the denudation ceased above, being passed in deeply. It was crossed by the second. He denied that the operation involved any serious operation.

In the discussion Drs. W. W. Potter, Dow, and Newman, expressed their approval of Dr. Jenks's operation, but Dr. Dow inserted his suture differently.

Ovariotomy During Pregnancy.—Dr. W. H. Myers, of Fort Wayne, reviewed this subject critically, and related a case in which he removed a multilocular tumor weighing about ten pounds, complicated by pregnancy. Soon afterward the woman aborted. He used a drainage-tube. There was some fever, but after the twentieth day she went on to good recovery. He thought the diversity of opinion prevailing regarding the management of these cases was due to a division of the profession into obstetricians and operating gynecologists. Among the methods which had been recommended were non-interference, puncture of the cyst, induction of premature labor, Porro's operation, and ovariotomy. Objections to all but the last method were given, especially to the first two.

Dr. W. W. Potter was surprised that there should yet be any doubt as to the propriety of ovariotomy, when the diagnosis of tumor complicating pregnancy was clear. He had done a double ovariotomy at the fourth month; the pregnancy continued and a healthy child was born at term.

Dr. Murphy had removed an ovarian tumor weighing about thirty-seven pounds, pregnancy at about the third month, continuing until a healthy child was born at term.

Dr. E. P. Davis thought Dr. Myers would not have been troubled with fever in his case had he not employed drainage.

Dr. R. J. Morris, of New York, had removed an ovarian tumor weighing fifty pounds at the fifth month of pregnancy, and the patient went on to be delivered normally at term. In another case the patient made a good recovery, but aborted. Here he had made ventral fixation.

Dr. Dow presented an instrument for facilitating operations on the cervix uteri.

A vote of thanks was given the chairman, Dr. Montgomery.

The Section adjourned.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Boston, May 31, June 1 and 2, 1892.

First Day, Tuesday, May 31st—Morning Session.

(Continued from p. 672.)

It is in the surgery of the head and spine that the greatest advances have been made, the largest number of new procedures introduced, the most brilliant operations done; and in these regions more than anywhere else the surgery of to-day is a new surgery, much of it the growth of even fewer years than those included in the lifetime of the Association. More and more constantly are all depressed fractures of the skull being treated actively, and basal fractures antiseptically. Stronger and stronger is becoming the conviction of surgeons that fractures of the spine, associated with evidence of pressure upon or injury of the cord, should not be left to nature, if the general and local symptoms indicate lesions that can be removed or relieved by elevation or extraction of vertebral fragments, or the lessening of intra-dural tension through opening of the sheath.

It has been proven to be wise to treat bullet-wounds of the brain like other punctured wounds of the organ, by exploring, cleaning, and draining the track; and occasionally it has been found possible to extract the ball through the wound of entrance or a counter-opening in the skull. The future must determine how far it is wise to go in the way of effecting removal of the bullet, and this must largely depend upon previously ascertained extent of liability to the supervention of epilepsy and mental disturbances, weeks, months, or years after the lodgement of a ball that at the time of injury did but comparatively little damage, or damage at least that was spontaneously recovered from.

Trephining for epilepsy following injury of the skull is no new operation, but of late such treatment has been quite largely employed, not only in cases where there has been an old fracture or contusion, but in those in which, by application of the now well-established rules of cerebral localization, it has been possible to determine the place of a meningeal thickening, or of a limited chronic encephalitis, or a new-growth, solid or cystic, acting as an exciting cause of motor disturbance. Electrical stimulation of the exposed cortex has been made to indicate with exactness a diseased area, the removal of which has been followed by relief, temporary or permanent, of the spasm symptoms. The attained perfection of operative procedures has reduced the mortality-rate to a very low figure, and even the after-presence of a gap in the skull has been prevented by reimplantation of the removed bone. Unfortunately, in very many cases of

recovery from operation, in a few weeks or months, or it may be years, the convulsive seizures will come on again. An established "epileptic habit" is independent of the original lesion, and after a certain time, which is a very uncertain one, the patient can no longer be assured that, the cause removed, the effect will cease. But, for all this, the morbid condition is so disabling, the relief afforded may be so great, the risk run is comparatively so small, that after proper and properly continued yet unavailing medicinal treatment, an epileptic in whom the seat of the disease can be fairly well located should become the subject of operative interference.

Trephining has also been done because of the existence of long-standing severe headache, and in cases in which the thorough application of the therapeutic test has proved that the cephalalgia does not depend upon a cause that can be reached and removed by drugs, the operation may certainly with propriety be recommended.

Considerable sections of the skull have been taken away to permit of the expansion of the microcephalic brain, but though improvement in mental condition in certain cases has followed such linear craniotomy, at the present time the operation seems to be of very questionable utility. Before it is to be accepted as an advisable method of treating feeble-minded children, further investigation must be made into the causes of arrested cerebral development, and how far it is productive of, and how far consequent upon, premature ossification of the cranium.

Insanity of traumatic origin has, in a very large proportion of the few cases surgically treated, been much improved or cured, because, we may believe, of relief of "intracranial fluid pressure," and even general paretics have been thought to have been benefited by trephining.

A few years ago, who would have dreamed of opening up the lateral sinus and removing from it a pyogenic thrombus? Yet it has now been done several times, and with success.

In not a few cases intracranial abscesses have been definitely located and operatively relieved.

But the most brilliant chapter in this history of brain surgery in recent times is that relating to tumors. There is set forth in it not only what has been done, remarkable as it is, but also the unity of medicine and the interdependence of its various departments. It is because of the work of the anatomist, the physiologist, the pathologist, the neurologist, that it has been rendered possible to locate, with close approximation to exactness, the position of the neoplasm and its character; without knowledge of which the skill of the surgeon and the most careful operative technique would be of little or no avail. Even the experimental therapeutist has played a part, because of his demonstrations of the influence of morphia upon the intracranial circulation. Though in but a small percentage of cases of tumor has it been, or perhaps can it be, practicable to effect removal because of location or pathological character, yet when it is so the gain is enormous, even though the relief afforded be but temporary, as in dealing with certain growths it must be.

Much less operative work has been done upon the spine than upon the head. It has had for its object the evacuation of abscesses, the relief of paralysis, and the removal of tumors pressing upon the cord, and has been in a high degree satisfactory and full of promise.

As never before, the congenital malformations—meningocele, encephalocele, and spina bifida—have been subjected to surgical treatment, and that with an increasing success, as improvements have been made in the methods of execution. Renewed attempts have been made to permanently get rid of intra-ventricular effusions by tapping and drainage, but the results have not been what might be desired, and that whether the old route to the ventricle has been followed or the new lateral one.

In the special departments, as in general surgery, these last ten years have been busy ones, and each may justly claim that there has been advance made in the recognition of disease and improvement in its treatment. But consideration of the work done in them does not concern us here.

Any retrospect, be it never so hurried, of the work of the decade furnishes good warrant for pride in what has been, and high hopes of what is to be. The world over, educated minds and trained hands are busy with the problems of cause, of course, of termination, and seeking out surer, safer, and speedier means of relief, therapeutic and operative. Week by week, and month by month, what is accomplished becomes free and common property; everything is proven and the good held fast. What will be the outcome of all this thinking, and experimenting, and operating, and writing, even in the near future, who would dare to predict? American surgeons have had not a little to do with the work in the past. Fellows of our own Association, some of whom have fallen asleep, have been closely identified with the discovery, the early adoption, and the thorough testing of not a few methods of treatment, and we may expect with confidence that it will be with us hereafter as it has been, and yet more.

As an organized body, certain duties rest upon the Association. Representing the surgery of a country of wide extent and of very varied climate and soil, of a people of many racial origins, there should be conducted by it a series of collective investigations, which, for example, might show the prevalence, and as far as possible the more remote determining causes, of certain surgical diseases, chief among which is cancer; or the influence of the local conditions, as of altitude, of average temperature, and of moisture upon the healing of wounds; or of the relative resisting power to the action of morbific organisms of the descendants of immigrants from different nations, still more members of the several color-races, four of which are to be met with within our boundary lines in numbers large enough to be of value in an investigation of this sort. From our meetings, year by year, should go out to the world reports, as it were, of the surgical state of the nation, and, as far as can be ascertained, the reasons therefore as found in place, in race, in occupation, and in social position.

In the personnel of the Association, the years that have gone by have brought much change. It could not but be so. Thirty-three of the Fellows have passed away, leaving to us a memory of worth, of learning, and of skill. Since our last meeting Agnew, and Campbell, and Johnston, and Kinloch, and Peck have rested from their labors. Each, honorable and honored in his own place and in his own way, aided humanity and advanced medicine, and each will long be held by us in kind remembrance.

The Treatment of Uncomplicated Fractures of the Lower End of the Humerus, was the title of a paper by DR. JOHN B. ROBERTS, of Philadelphia, Pa.

The following are the conclusions presented:

1. In the treatment of fractures of the lower end of the humerus the divergent angle between the axes of the arm and forearm must be preserved; and hence, dressings which interfere with the normal difference in level of the radius and ulna are not permissible.

2. Fractures of the lower end of the humerus of ordinary severity are, as a rule, more successfully treated in the extended than in the flexed position.

3. Because the "carrying function" is less liable to be impaired.

4. Passive motion at an early date is harmful; and should be deferred until union has occurred and the dressings have been finally removed.

5. Good results as to anatomical conformation and as to motion are generally to be expected, and can usually be obtained.

6. Recent fractures in which satisfactory coaptation is not obtainable under anæsthesia, may with propriety be subjected to exploratory aseptic incisions. Old fractures, in which deformity and impairment of function are marked, may, within certain limitations, be subjected to

refracture or osteotomy, for the relief of these conditions.

Dr. John E. Owens, of Chicago, said that he had never treated fractures of the lower end of the humerus in the extended position. The treatment of such fractures in the extended position seems to recommend itself for the following reasons: In the extended position there is no room in the olecranon fossa for neoplastic deposits; the great superabundance of soft tissues in front of the joint when the arm is flexed marks the symptoms; the soft tissue in front of the arm presents more opportunity for laceration and cicatricial contraction; no traction is made upon the vessels and nerves; the natural angularity between the arm and forearm is preserved.

The speaker had experienced considerable timidity in the treatment of these fractures at the elbow on account of the impaired mobility which often results. The natural position of the arm in relaxation is that of flexion. He had treated these fractures in the flexed position. The extended position may cause tilting forward of the upper end of the lower fragment, or its rotation forward or hyper-extension may be caused.

Passive motion is resorted to in four or five weeks, to an extent short of causing suffering. The material used for the splint is plaster-of-Paris. He had treated many of these fractures in cases where the injury resulted from railroad accidents, where suits for damages are common, but he knew of no case where the question of defective treatment entered successfully.

Dr. John H. Packard, of Philadelphia, remarked that it was often difficult to tell the exact character of a fracture at the elbow-joint, even under the most favorable opportunities for examination. He thought that the carrying function was rarely perfectly maintained under any plan of treatment. After fracture running into the joint there is liability to the formation of adhesive lymph. He thought that passive motion should be resorted to before the organization of the adhesive lymph. He advocated treatment of these fractures in the flexed position, and described a splint of sheet zinc which he had used with satisfaction.

Dr. Charles B. Porter, of Boston, thought that the treatment advocated in the paper violated one of the first principles in the treatment of fracture, that is, to place the muscles in a state of relaxation. In the extended position the muscles which should be relaxed are not at rest. He had never seen any statistics in regard to the results of treatment of fracture in extended position, in comparison with those in the flexed position. Until these are forthcoming, the profession will be unwilling to accept this as the best method of treatment. He therefore gave his adhesion to the treatment of these fractures in flexed position rather than extended position. Before the fracture is dressed it should be adjusted under ether, and then not looked at for two or three days, and if found in position not again dressed for a week or ten days. In old fractures where there is sufficient deformity to demand osteotomy, reaction of the elbow is better, and by it a very useful arm may be secured.

Dr. J. Ford Thompson, of Washington, D C., did not approve of treating fractures of the lower end of the humerus in a right-angled position. In his treatment he adopted the plan which permitted the axes of the fragments being brought into relation with each other. This he had found to be the extended position. In two cases of compound fracture he had been unable to bring the fragments into line until the forearm was extended. The difficulty about the straight position is that it is disagreeable and uncomfortable to the patient. He considered plaster-of-Paris to be the best dressing.

Dr. A. G. Gerster, of New York, held that the bad results which are often seen after fracture of the lower end of the humerus are not necessarily due to the method of treatment. In several cases where he had had an opportunity to examine the joint, he had found that the trouble was due to the throwing out of callus at points where the callus had been stripped off. Bad results are also often due to insufficient examination. Anæsthesia is not employed, and the dislocation which may accompany the fracture is not recognized. In the treatment of the fracture, after replacing the fragments, such methods must be employed as will hold them in place. The flexed or extended position must be employed as necessary. He had found that, as a rule, the fragments were best held in place by treatment in extension. He does not employ passive motion, and considers it useless and often harmful.

Dr. Stephen H. Weeks, of Portland, Me., said that it was his custom to treat supra-condyloid fractures of the humerus in a position of flexion, but he was satisfied that satisfactory results are secured by different methods of treatment.

Dr. T. J. Dunott, of Harrisburg, thought that the manner in which the injury had been received had much to do with the ultimate result. He was inclined to think that the flexed position would give a good result in many of these fractures associated with severe injuries. He preferred to treat the arm in such a position that the radius and ulna are parallel. In many cases where great injury is done to the soft parts no splint can be applied, and under such circumstances the arm should be laid on a pillow and lead-water and laudanum applied for some days until the tumefaction goes away. If necessary, incision into the tense tissues is made.

Dr. W. H. Carmalt, of New Haven, said that in some cases the ulna acted as a wedge between the two fragments at the lower end of the humerus, forcing them apart, and reported a case which he had recently treated in the flexed position, using extension by means of weights, obtaining a satisfactory result.

Dr. J. Collins Warren, of Boston, had observed the difficulty mentioned by Dr. Carmalt, but had attributed it to drawing forward of the condyles rather than to sinking in of the ulna. Dr. Bigelow had laid down the excellent rule of going through the movements for reducing a dislocation at the elbow in these cases. In this way the danger of overlooking a dislocation is avoided, and if there is simply a fracture the manipulations mould the bone into place. The flexed position with an internal angular splint seems to be the best method.

Afternoon Session.

The Treatment of Uncomplicated Fractures of the Base of the Radius, by Dr. John B. Roberts, of Philadelphia. The following conclusions were presented:

1. Fractures of the lower end of the radius vary comparatively little in their general characteristics, because but one form is usual.

2. Muscular action has little or nothing to do with producing or maintaining the deformity.

3. Immediate reduction of the fragments is the essential of treatment.

4. Many of the splints devised for the treatment of this fracture have been constructed in ignorance of the pathology of the condition.

5. The ordinary fracture of the lower end of the radius usually requires no splint, and should be dressed with a wristlet of adhesive plaster or bandage.

6. When a splint is required, a narrow, short, dorsal splint, fixing the wrist, is all that is necessary.

7. The method of dressing here advocated is the best, because it annoys the patient as little as possible by avoiding cumbersome appliances, and permits free voluntary movements of all the finger-joints.

8. Passive motion is unnecessary until union has occurred and the dressings have been finally removed.

9. Good use of the wrist and fingers is early obtained, and the anatomical conformation is restored as well as, and perhaps better than, by other more complicated dressings.

10. Old fractures, which have been improperly treated

by omission of immediate reduction, may with considerable success be subjected to refracture at the end of six or more weeks. At later periods readjustment may be possible only by osteotomy, which is a legitimate means of treatment.

Dr. John H. Packard, of Philadelphia, had in 1879 read a paper on this subject before the American Medical Association, in which he took the ground that the great difficulty in many of these cases arose from non-reduction. If the fracture of the lower end of the radius, commonly known as Colles' fracture, is once reduced there is little tendency to reproduction of the deformity. Many physicians think that all that is necessary is to apply the proper dressing. The most important step in the treatment is reduction. He did not agree with the fifth proposition, that no splint is required. He employs an anterior splint padded to fit the curve of the radius and reaching to the ball of the thumb. The patient can use the fingers freely. In ordinary cases who will take proper care of the arm, this simple splint suffices.

Dr. Charles B. Porter, of Boston, emphasized the necessity for complete anæsthesia, then complete reduction and breaking up of the impaction, and then the application of a posterior and anterior splint; after a week or ten days, he allows motion of the fingers, and in two weeks motion at the wrist. He considers passive motion unnecessary except in old people, where there is a rheumatic or gouty tendency.

Dr. J. Ford Thompson, of Washington, dwelt upon the disastrous results that often followed failure to reduce the displacement, or the use of improper dressings. After reduction of the fragments he applies an anterior and posterior splint secured lightly to the arm. He had not found it necessary, as a rule, to use ether to accomplish reduction. In cases where there was severe pain following the application of the ordinary splint, instant relief followed the application of a plastic splint, the hand being carried well to the ulna side. In several cases where the hands were useless from the inflammation of the sheaths of the tendons, he had tried to break these up under repeated administrations of anæsthetics, but the results had not been very marked.

Dr. Joseph Ransohoff, of Cincinnati, said that in some cases the reduction could not be effected so readily as had been described. He had had three or four cases in which extension would not overcome the difficulty, and in such cases hyper-extension has been resorted to. In the treatment he is partial to the Levis splint. After a week or ten days passive motion is resorted to.

Dr. Charles B. Nancrede, of Ann Arbor, called attention to the fact that a certain amount of the bone-tissue at the seat of fracture was destroyed, so that some deformity will necessarily follow. Reduction is the most important measure in the treatment. The fragments are then to be held in place by suitable apparatus.

Fibroid Tumors of the Uterus.—Dr. John Homans, of Boston, read this paper. Fibroid tumors were defined as aggregations of normal uterine tissues in abnormal situations and masses. They may cause symmetrical or more or less one sided enlargement; they may be in the walls of the uterus, or protrude toward its outside or toward its inner cavity; they may be incorporated with the uterus or connected with it by a broad attachment, or by a pedicle, or they may be entirely separated from it and get their nourishment from the vessels of the omentum or mesentery. They may be dense, œdematous, or filled with lymph-spaces, or they may in very rare instances be fibro-cystic. It is probable that a certain number of the tumors which have been described as fibro-cystic belong to the class of fibroids with dilated lymph-spaces. True fibro-cysts are very rare.

In size these tumors vary from that of a mere dot to masses weighing fifty or more pounds. Their growth is slow. They are of common occurrence. In the past fifteen years the author had seen about five hundred and twenty fibroid tumors.

Operations to relieve women with fibroid tumors are rarely necessary. The writer had operated on only sixty of these five hundred and twenty cases, eleven per cent. The conditions which should guide us in recommending removal of the tumors are: When they threaten life by hemorrhage; when they are unbearable from their weight or the inconvenience they cause; when in a young woman they cause distress and shame from the alteration in her figure; when they cause much pain; when they cause serious obstruction of the circulation, or interfere with the action of the digestive or eliminative organs; when they cause obstruction of the bowels, or when their pedicles have become twisted and sometimes the whole uterus becomes twisted on its axis.

Death by hemorrhage is rare. The speaker knew of only three instances. In fibroids complicating pregnancy, the tumor may threaten to render delivery impossible, but nature will generally get the obstruction out of the way if you give her a chance.

The solid fibroid tumors rarely have adhesions, and are removed without much difficulty. Of fibro-cystic tumors the speaker had met with only eight in the five hundred and twenty cases. None of these were successfully removed. One woman recovered from an incomplete operation. The others all died. The author had reported an extraordinary case of twisting of the uterus as the pedicle of a large fibroid tumor. The uterus was twisted one and a half time on its axis. The case was fatal, no operation having been done.

The natural history of ninety per cent. of fibroid tumors is to remain stationary after reaching a certain size, and after the menopause to become cretaceous and atrophied. About ten per cent. require removal. The average age at which the speaker had operated was thirty-nine years.

Treatment by ergot alone is usually ineffective; combined with curetting it helps to stop hemorrhage. Treatment by high doses of electricity à la Apostoli sometimes stops hemorrhage, almost always relieves pain, and gives strength, but rarely diminishes the size of the tumor. In four cases the speaker had practised removal of the ovaries for the cure of fibroid tumors. In one woman, aged forty-four, the tumor disappeared in a few weeks and menstruation at once ceased. In another, aged thirty-five, the catamenia gradually ceased after three years, and the tumor remained about the same. In another, aged thirty-four, there was irregularly recurrent bleeding for eight months after operation. A fourth case, aged thirty-six, was not at all relieved by the operation. He was inclined to regard this method as unreliable.

Curetting often cures the hemorrhage completely. This is followed by the application of tincture of iodine. The surgical treatment at the present time is almost wholly by removal of the tumor with or without the uterus. If the tumor has been protruded into the cavity of the uterus it should be enucleated and removed under careful antisepsis. Other tumors requiring removal must be removed by abdominal section. The operation may be finished in several ways. Sometimes the wound in the uterus can be closed by stitches, or the pedicle may be treated by the extra-peritoneal method after constriction with the serre-nœud. Sometimes the stump is simply tied as is the pedicle of an ovarian tumor and then dropped. Sometimes the stump is turned into the vagina. All the different methods depend for their fundamental process on asepsis and on securing the vessels of the broad ligament, no matter in what way the pedicle or neck or body of the uterus is ultimately disposed of.

The condition of most patients from whom fibroid tumors have been removed is very comfortable. Some suffer from "hot flashes." Others grow extremely fat. A certain proportion, particularly those in whom the pedicle has been treated extra-peritoneally, suffer from ventral hernia. Sometimes the bladder is cut off by the wire

écraseur, but in the only case he had seen the bladder healed in a few weeks by keeping it drained, and during the ten years that have elapsed since the operation, the bladder has been perfectly normal.

The length of the incision does not complicate the operation, provided there are no adhesions. Very rarely insanity follows the removal of a fibroid, as it does other surgical operations. The author had never seen this complication follow hysterectomy. He had seen two cases of tetanus in the cases of other operators, but had had no case himself after hysterectomy. He had had one case follow ovariotomy. He invariably sees that patients who have recovered from abdominal hysterectomy are fitted with a firm abdominal supporter, and impresses upon them the necessity of being careful about carrying heavy loads or straining themselves.

Dr. A. Vander Veer, of Albany, said that in looking over his notes, he had found that the age from thirty to forty-eight years has been most prolific in the development of these tumors. The hemorrhage, which is usually the symptom that attracts the attention of the patient, is dependent not so much upon the size of the tumor as upon its location. The hope that after the menopause is reached the fibroid will subside is not always verified. In some cases the tumor seems to take on a more active growth at that time. As to treatment, curetting and packing with iodoform gauze will often stop bleeding; where this fails, in small fibroids, oöphorectomy invariably cures except in soft myomas. The danger in treatment rests with the size of the tumor. It is the large ones that give the mortality after operation.

Dr. J. Ewing Mears, of Philadelphia, held that where the only reason for the removal of the tumor was the large size of the abdomen, giving rise to unpleasant remarks, we should not be guided by the patient's desire that the operation should be done. He related the case of an unmarried woman, who desired the growth removed on account of the distention of the abdomen which it produced. He refused, and she passed into the hands of another practitioner, who did operate, the patient dying five hours later. Dr. Mears divided those cases requiring operation into two classes. We are justified in operating where the hemorrhage endangers life; second, we are justified in operating where the pressure symptoms are such as to make life unbearable. There are, however, many cases in which under palliative treatment life may be prolonged, the patient rendered comfortable, and be able to enjoy life. He had found electricity palliative, but not curative. The tumor is sometimes reduced in size.

Dr. George W. Gay, of Boston, spoke of the treatment of fibro-cystic tumors and referred to the use of tapping. He reported one case in which he began tapping in 1879, repeating it every two or three weeks for four years; ninety tappings in all were made. The patient is now in good health, with a large abdomen, but has not been tapped for years. Other similar cases were reported.

Dr. Robert Abbe, of New York, referred to the value of the Trendelenburg posture and the early securing of the arterial supply of the uterus in these operations. He was rather surprised at Dr. Homans's assurance that death from hemorrhage was rare. He had thought the contrary. It is the symptom that frightens the patient and alarms the surgeon. He had had fair success with electricity, and would advise it in many cases. The tumor will grow, but the hemorrhage will cease.

Dr. John Homans, of Boston, said that the use of strong currents of electricity to the interior of the uterus caused some change to the mucous membrane, checking bleeding, but it did not prevent conception. It was his custom to advise patients with fibroid tumors not to marry. Cases bearing upon this point were related.

The Association then adjoined until Wednesday morning.

Second Day, Wednesday, June 1st—Morning Session.

The morning session was given up to a visit to the Massachusetts General Hospital, where a number of interesting cases were shown and the methods of work demonstrated.

Afternoon Session.

Surgery of the Tongue.—Dr. N. P. Dandridge, of Cincinnati, read a paper on this subject. The paper was confined to a consideration of operative procedures in malignant disease. Our knowledge of lingual cancer was first reviewed. As a rule it appears in the form of epithelioma. It runs its course in about a year and a half. In many cases it develops from an indifferent lesion which has been subjected to continued irritation. Neighboring glands are usually affected, and this may occur within three months, or not for six or nine months, after the appearance of the disease. In ulcerated epithelioma the diagnosis will most often hesitate between that and tubercular and syphilitic ulcer.

The history of operating for cancer of the tongue was then considered, and the author expressed his agreement with the following propositions laid down by Treves: 1. The organ should be removed by cutting with the scissors or knife. 2. The removal should, as a general rule, be effected through the mouth. 3. Every means should be taken to reduce the hemorrhage to a minimum. 4. When the floor of the mouth is involved, or the glands extensively involved, the incision should be carried out through the neck.

The following methods were then described in detail, Whitehead's, Morant Baker's, Kocher's, and Volkmann's.

Whitehead's Method.—In this operation a gag is used, care being taken to avoid pressing back the jaw and impeding respiration. The patient is in a sitting position. A ligature is passed through the anterior part of the tongue, and scissors are used for the section. If the frænum and the anterior pillars of the fauces are completely divided, the tongue can be drawn freely from the mouth. The organ is then separated by free cuts with the scissors until the main artery is reached. This is seized with forceps before division. Before completely severing the tongue, it is desirable to pass a loop of silk through the glosso-epiglottidean fold, in case it may become necessary to make traction on the posterior floor of the mouth. The parts are then rendered as aseptic as possible by swabbing over with 1 to 1,000 biniodide of mercury solution, and painted with iodoform styptic solution; Friar's balsam, in which the spirits are substituted for a concentrated solution of iodoform in ether, one part in ten of turpentine having been added to the ether. This varnish is repeated daily. The patient is not kept in bed, but encouraged to go in the open air. Whitehead has reported 104 cases of total removal of the tongue by this method, with 20 deaths or $19\frac{80}{100}$ per cent. Of 61 patients, 15 survived the operation one year; 4, two years; 2, three years; 4, five years, and 1. six years.

Baker's Operation.—In this operation two threads are passed half an inch from the median line of the tongue on each side. The attachments of the tongue on the side are divided with scissors, keeping close to the lower jaw. The mucous membrane is next divided along the median line, and the two halves of the tongue separated by the finger. The diseased half of the tongue is then removed with the écraseur. After this, glands should be searched for and removed either from the floor of the mouth or by external incision.

Kocher's Method.—Kocher's operation has been commended in cases in which the floor of the mouth and the submaxillary glands are involved, but is too serious an operation for cases where the disease is confined to the tongue. Tracheotomy is first done, and the fauces plugged. An incision is then made along the anterior

border of the sterno-mastoid muscle. From the first, an incision is made from the middle of the sterno-mastoid muscle to the hyoid bone, and along the anterior border of the digastric to the jaw. The flap is turned up, and the facial artery and vein and the lingual artery tied. The submaxillary fossa is then completely cleaned out. The attachments of the tongue are now divided, and it is drawn through the opening and removed, either in part or in whole, by scissors or galvano-cautery. If the whole tongue is removed, the lingual artery of the opposite side must be ligated through a separate incision. The tracheotomy tube is allowed to remain, and the wound is kept packed with gauze soaked in carbolic acid solution. This is changed twice a day, at which times food is given. In fourteen cases thus operated on there was only one death.

Volkmann's Method.—Volkmann's method has been attended with extraordinary success, there having been only two deaths in ninety-one operations. The patient is seated in a chair. If the tongue can be brought forward a resection is made with knife or scissors, and the mucous membrane brought together, or if a strip of healthy tongue is left, it is turned around so as to make a short, broad organ. If the disease is too extensive to admit of this method, a traction thread is passed through the tongue, and it is drawn forward. The canine or first molar tooth is extracted and incision made downward from the corner of the mouth, and the lower jaw divided. The portions of bone are separated and the attachments of the tongue divided. The cut surfaces are covered with mucous membrane and the bone wired. A drainage-tube is placed in the tonsillar fossa and brought out at the lower portion of the incision.

In the after-treatment of removal of the tongue for cancer the three great factors are, 1st, let the patient be well fed; 2d, let all discharges escape from the mouth; 3d, keep the cavity of the mouth sweet and clean.

The author next referred to the palliative treatment to be employed in cases where operation was not indicated, or where the patient refused surgical interference. For the pain a powder consisting of iodoform, one grain, morphine, one-sixth to one-half a grain, borax, three grains, has been recommended, applied directly to the painful spot. Cocaine has naturally been resorted to, either by application to the surface or by hypodermic injection; but there is danger of the establishment of the cocaine habit. The excision of a portion of the lingual nerve was highly recommended, but the relief thus afforded may be only temporary. For the relief of salivation and fetor various antiseptic mouth-washes may be employed. Where there is difficulty in swallowing on account of the pain, relief may be afforded by painting the surface freely with cocaine just before the administration of food, or a short rubber tube may be passed into the œsophagus.

The following conclusions were considered justified:

1. Sufficient experience has been accumulated to show that the removal of cancer of the tongue prolongs life and adds to the comfort of the patient, and further affords a reasonable hope of a permanent cure.

2. All operations should be preceded by an effort to secure thorough disinfection of the mouth and teeth.

3. In the treatment of continued ulcers and sores on the tongue, caustics are to be avoided and all sources of irritation removed.

4. Persistent sores on the tongue should be freely removed by knife or scissors if they resist treatment.

5. When the disease is confined to the tongue, Whitehead's operation should be employed for its removal.

6. In this operation the advantage of preliminary ligation of the lingual artery is not definitely settled, but the weight of authority is against its necessity.

7. The advantage of leaving one-half the tongue, in unilateral disease, must be considered undetermined, but the weight of positive experience is in its favor. In splitting the tongue into lateral halves, Baker's method of tearing through the raphe should always be employed.

8. A preliminary tracheotomy adds an unnecessary element of danger in the removal of the tongue in ordinary cases.

9. When the floor of the mouth has become involved or the glands are enlarged, Kocher's operation should be employed, omitting the spray and preliminary tracheotomy.

10. Removal of the glands by a separate incision after the removal of the tongue must be considered insufficient.

11. Volkmann's method still rests on individual experience. Its just value cannot be determined until it has been subjected to trial by a number of surgeons.

12. Thorough and complete removal should be the aim of all operations, whether for limited or extensive disease.

13. By whatever method the tongue is removed, the patient should be up and out of bed at the earliest possible moment, and should be generously fed.

Dr. D. W. Cheever, of Boston, referred to the question of diagnosis of ulcers of the tongue. In the first place we have dyspeptic ulcers. These appear in successive crops. They are not indurated and can be made to heal by simple treatment. Secondly, we have the syphilitic ulcers. Previous history is at times of service. In doubtful cases two weeks of anti-syphilitic treatment should be employed. Third, lupus or tubercular disease; this is not so common as cancer. The test of the examination for the bacillus is not always successful. The tubercular ulcers form and reform; some heal and leave scars. Cancer does not heal, but goes on extending. In lupus the sublingual and submaxillary glands are early infected. True cancer is almost always at the side of the tongue; the infection of the glands is usually speedy.

While he advised removal of enlarged glands he did not think that the neck should be treated as the axilla. As to duration, he thought that malignant affections of the mucous membrane are more speedy in their recurrence than malignant affections in the skin and glandular structures. In cancer of the tongue the disease, as a rule, recurs in four to six months. In simple cancer of the tongue without gland involvement, preliminary tracheotomy is not needed. He operates with the patient in the sitting position, and not thoroughly etherized. He had never tied the lingual artery for cancer. The partial amputation of the tongue where the disease is limited, seems to have been as successful as the total removal. Recurrence is almost always in the glands, and rarely in the stump. Reference was also made to the remarkable recovery of the power of talking in cases where the tongue was completely removed.

Dr. L. McLane Tiffany, of Baltimore, said that in considering the operative interference we should distinguish between cases where the disease involved the anterior portion of the tongue and where the disease has begun more or less posteriorly, and there is glandular involvement. In the latter case he prefers division of the lower jaw, either at the symphysis or at the side. He thought it wise to remove the glands beneath the tongue, even if not enlarged. In this way we get rid of one of the routes of systemic infection. Where the posterior portion of the tongue is involved, permanent recovery is rare; where the glands are involved, it is still more rare. He had obtained his best results where he had divided the jaw and secured drainage from below. The incision is not closed, and ample opportunity for drainage is provided. The operation is done with the patient on the side and the head near the edge of the table, full anæsthesia with chloroform being employed. Where the tongue is excised for tubercular ulceration, the ulcer rarely recurs, although the general tubercular disease may progress.

Dr. T. F. Prewitt, of St. Louis, remarked that the selection of the operation depended largely upon the ex-

tent and location of the disease of the tongue; where the cancer is limited to the tongue an operation through the mouth is sufficient. If the floor of the mouth be involved, and the disease extend out to the bones, something more is needed. In one or two instances he had resected portions of the jaw. He did not think that the primary hemorrhage was to be dreaded, but he had seen death from secondary hemorrhage in a case of diseased arteries.

Dr. W. H. Carmalt, of Philadelphia, had found a great deal of advantage from preliminary tracheotomy. The most frequent cause of death after operation is septic pneumonia from the inhalation of infective material. Tracheotomy not only facilitates operation, but it obviates the danger of septic pneumonia. In the last case he had operated, doing tracheotomy and packing the fauces, the patient did well. At the end of four days he removed the tracheal tube and allowed the patient to breathe by the mouth. The next day the temperature was up to 102° F. The tube was immediately reintroduced and the fauces packed, and in twenty-four hours the temperature was again normal. In cases where the glands are involved, he advised the Kocher operation. In regard to after-treatment, he had found that patients bear the presence of the œsophageal tube better than its reintroduction.

Dr. R. F. Weir, of New York, had removed the tongue five times by the Whitehead operation, and five times by the Kocher operation, and had removed one-half the tongue ten times by Whitehead's operation. Where the floor of the mouth or the glands are involved he prefers Kocher's operation. He considered it good surgery, where there were signs of glandular enlargement in the submaxillary space, to cut down in front of and behind the sterno-mastoid muscle and examine the condition of the lymphatic glands in this situation. In the Kocher operation he prefers tracheotomy, and does it a few days before if there is sufficient time. He considers it a great advantage both at the time of operation and afterward.

Dr. A. G. Gerster, of New York, had extirpated the tongue in various ways in nineteen cases. He thought that the more thorough and radical the operation, the better were the results. He advocated removal of the affected glands, and the use of tracheotomy. This enables the operation to be more thoroughly done, and with more comfort to the surgeon and less danger to the patient. In this region, as in every other region of the body, thorough operation requires thorough anæsthesia.

Dr. T. J. Dunott, of Harrisburg, reported a case where the tongue was greatly enlarged and protruded from the mouth. The operation was done several years ago, and the patient is still living and well.

Dr. Joseph Ransohoff, of Cincinnati, reported one case on which he operated by the Mordant-Baker method, four and a half years ago, and there had been no relapse. In other cases on which he had operated he had not obtained the same success. In every case where he did not do a Kocher operation he made an incision in the submaxillary triangle, in order to put in a large drainage tube reaching to the floor of the mouth. This opening gives an opportunity for the examination of the glands. If there is enlargement the gland can be turned out or the incision enlarged, if necessary.

Conditions Demanding Excision of the Globe of the Eye.—Dr. W. H. Carmalt, of New Haven, Conn., read a paper on this subject. As a rule, the question of the propriety of enucleating an eye will be referred to the specialist, but there are cases of emergency in which the general surgeon is called upon to act promptly. In the consideration of this subject we are at once confronted with it from two different stand-points, according as we have to deal with blind eyes or with those in which there is a more or less useful degree of vision.

In the case of blind eyes, the objections to the operation are two: 1, The danger of the operation *per se*, and 2, the cosmetic appearance. Meningitis has occurred in some cases operated on in the acute stage of suppurative panophthalmitis. In these cases the removal should be made as soon as the evidences of suppuration are unmistakable. In cases of lacerated or penetrating wounds with loss of vision, the operation is better done before suppuration occurs, or as soon as the evidences of suppuration are sufficiently plain.

There is no one condition for which eyes are so frequently excised as in sympathetic ophthalmitis (threatened or actual). The pathology of the sympathetic process is still a matter of controversy. In a case presenting the irritative symptoms indicating the beginning of sympathetic ophthalmitis, with the other eye lost from injury, or certain forms of disease yet to be mentioned, it is the duty of the surgeon to advise in the most unqualified manner the enucleation of the blind eye. The irritative stage is usually short. It is more or less rapidly followed by diminution of vision, due to an organic lesion. In the acutely inflammatory stages of the sympathetic disease, the removal of the "excitor" is not so beneficial to the "sympathysor," and may be harmful, adding fuel to an already flaming fire. In these cases the operation should be postponed until the active process is subdued. It must also be remembered that in a small number (perhaps about ten per cent.) the sympathetic inflammation may come on after the removal of the excitor, and in about two per cent. it has been thought to have been the result of operation. The conditions liable to give rise to sympathetic ophthalmitis are—1, injuries; 2, diseases.

Injuries.—a. Lacerating or perforating wounds, so severe that the result will inevitably be atrophy of the globe. *b.* The lodgement of a foreign body in the interior of the globe. *c.* A penetrating wound involving the ciliary region.

Diseases.—a. Recurring or chronic irido-choroiditis from whatever cause. *b.* Atrophy of globe following purulent keratitis, or panophthalmitis, or in which ossific degeneration of the retina has taken place. *c.* Atrophy of the globe from any cause, with painful ciliary region.

Time does not confer immunity against sympathetic disease. There is considerable difference as to liability to the disease in the various injuries and diseases. This sequence is more frequent after injuries than after non-traumatic diseases, and of injuries, nothing is so potent as the lodgement of a foreign body in the eye.

The pain which comes from the intra-ocular pressure of a chronic glaucomatous degeneration is frequently so excessive as to justify the removal of the offending organ, other means of treatment having failed.

Various diseases of the eye leave the organ in conditions so inconvenient or repulsive in appearance that the surgeon's aid is sought for purely cosmetic purposes. Are there, however, no procedures that may be substituted and avoid so severe a mutilation? In the earlier days of ophthalmology abscission of the anterior segment of the globe was often practised. In this operation more or less evisceration of the contents of the globe takes place. As a matter of fact the result is about the same, as often enucleation and sympathetic ophthalmia may follow the operation. The opinion of the author was decidedly against such risky procedures; enucleation of the misshapen eye, with the introduction of an artificial eye, is the only admissible operation. The modern expedient of tattooing a white cicatrix of the cornea without staphyloma has resulted in sympathetic disease.

In the enucleation of blind eyes that are the seat of phosphenes, but like many operations undertaken to relieve a symptom of nerve irritation, its utility is doubtful. In regard to the enucleation of eyes only partially blind, it goes without saying that a condition of things which can allow it to be seriously contemplated must apply with greater force to eyes already blind. The chances of accident or independent disease to the remaining eye are sufficiently great to justify the statement that nothing short of the certainty of ultimate blindness to both, or of death, can permit one to consider such a procedure.

Most of the intra-ocular tumors are sufficiently dangerous to life to demand the removal of the organ in which they are contained, as the only hope that can be entertained of successfully combating their encroachment. They are of two classes, the granulomata and the sarcomata. The extra-ocular growths are of greater variety of histological structure. In sarcomata of the orbit removal of the globe is often required, even when not implicated in the disease.

Should an eye which retains an appreciable degree of vision be removed in order to arrest a threatened or prospective attack of sympathetic disease in the fellow? It is certainly unjustifiable to remove an injured but still seeing eye, though it may be an excitor of sympathetic disease. The result of the operation has not been sufficiently successful in averting the progress of the malady, after it has been begun, to warrant its recommendation. The only condition in which it was considered justifiable to remove a still seeing eye for sympathetic disease is where a foreign body remains in the eye. In these cases sympathetic disease is very apt to follow.

Election of Officers.—The following officers were elected: *President*, Dr. N. Senn, of Chicago; *Vice-Presidents*, Dr. W. W. Keen, of Philadelphia, and Dr. Charles B. Porter, of Boston; *Secretary*, Dr. J. R. Weist, of Richmond, Ind.; *Treasurer*, Dr. John B. Roberts, of Philadelphia; *Recorder*, Dr. J. Ewing Mears, of Philadelphia; *Members of Council*, Dr. Roswell Park, of Buffalo, and Dr. R. F. Weir, of New York; *Member of the Executive Committee* of the Congress of American Physicians and Surgeons, Dr. R. McLane Tiffany, of Baltimore; *Alternate*, Dr. James McCann, of Pittsburg.

The following were elected to membership: Dr. John B. Deaver, of Philadelphia; Dr. Frederick H. Gerrish, of Portland, Me.; Dr. William S. Halstead, of Baltimore, Md.; Dr. Charles McBurney, of New York, and Dr. Henry R. Wharton, of Philadelphia.

It was decided to hold the next meeting in Buffalo, N. Y., in May, 1893, and Dr. Roswell Park was elected Chairman of the Committee of Arrangements.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ENTERECTOMY BY A NOVEL METHOD—SPONTANEOUS CURE OF FEMORAL ANEURISMS—HÆMOPTYSIS IN RENAL CIRRHOSIS—MAMMARY ABSCESS AND TUBERCULOSIS—INDIGO IN THE URINE—THE RECENT ELECTION AT THE PATHOLOGICAL SOCIETY—THE DECREASE OF INFLUENZA—CONTINUED INCREASE OF SMALL-POX—THE LONDON COUNTY COUNCIL AND POST-MORTEM EXAMINATIONS.

London, May 21, 1892.

At the last meeting of the Clinical Society, Mr. F. Paul, of Liverpool, gave an account of a case in which he had performed enterectomy in a novel manner. The patient was a woman, aged thirty-seven, who had been suffering for six days from an unrelieved strangulated hernia. The bowel had to be excised, as it was sloughing. Mr. Paul employed the following procedure in order to reunite it: A bone tube armed with a traction needle was so sewn into the upper end. The traction thread was then passed through the wall of the lower end, about three inches down, and the two ends were lightly attached to each other. An assistant then held the traction thread while the operator invaginated the bowel over the tube so as to completely cover the cut; the tube was retained in this position with four Lembert sutures, and the traction thread drawn tight and cut off short. The patient was fed freely with liquid nourishment from the first; bread and milk were given on the sixth day, and meat on the fourteenth day. The bowels were well moved by glycerine enemata on the eighth day. The patient was convalescent at the end of a month, and was now quite well and the bowels quite natural. Mr. Howard Marsh remarked that Mr. Paul's method was so simple that any surgeon could practise it. Mr. Jessett said he thought puncture of the lower segment of bowel was dangerous. All operations that comprised invagination were difficult where the intestine was greatly distended. He favored lateral approximation and had always found it successful. Dr. Robinson's suggestion to use a rubber tube was risky, as such tube could not be absorbed as bone could. Mr. Paul replied that he had never witnessed any ill effects follow puncture of the intestinal wall with an ordinary small needle and thread. He did not consider lateral approximation was likely to be satisfactory.

At the same meeting of the society Mr. Howard Marsh related a case in which spontaneous cure of femoral aneurisms occurred. The patient was a man, aged forty-three, who was admitted into hospital with a well-marked aneurism in Hunter's canal as large as a small orange. The skin over the tumor was hot and suffused, the superficial veins distended, the patient's temperature 100.2° F., and there was considerable pain. On the following day pulsation in the tumor had ceased, and the tumor had become firm and hard except at its central part. The swelling gradually lessened, and in twelve weeks the patient was discharged cured. In a few months he was readmitted with a second and smaller aneurism in the upper part of Hunter's canal. After one day's rest in bed, however, this aneurism also was found to be free from pulsation and apparently solid; it slowly disappeared in time. Mr. Marsh thought that in the case of the first aneurism coagulation in the sac was induced by inflammation of the parts around, or possibly by displacement of a portion of clot; he thought the latter was perhaps the manner in which the second aneurism was cured.

Dr. Francis Hawkins then gave an account of a case of renal cirrhosis in which profuse hæmoptysis occurred, and symptoms simulating those of tuberculosis. The heart was much hypertrophied and there was general arterio-sclerosis. There was slight dulness over the left infra-clavicular region, and decided dulness, with moist râles, over the left infra-scapular region. The urine contained albumin and hyaline casts, and micturition was frequent. As the hæmoptysis was associated with increased arterial tension, iodide of potassium was given with beneficial results. Subsequently the case passed into other hands, and ergot was given, which increased the bleeding. The diagnosis of renal disease was verified at the post-mortem examination; the left lung was then found to be carnified at its base, emphysematous and œdematous at its apex. The right lung was emphysematous, congested, and œdematous. Dr. Hawkins drew attention to the fact that hæmoptysis might occur as a symptom in renal disease, and that a hypertrophied heart might produce physical signs in the left lung which might be mistaken for those of tuberculosis. He also pointed out that ergot often produced an increase rather than a diminution of hæmoptysis.

Mr. Arbuthnot Lane made a short communication in which he drew attention to the frequent association between chronic mammary abscess in women and a history of tuberculosis, or the presence of tuberculous disease in other organs Though such abscesses were not usually associated with tuberculous disease of the axillary glands, he nevertheless regarded them as being of tuberculous nature.

At the last meeting of the Pathological Society, Dr. Ord gave an account of a case in which a deposit of indigo occurred in the urine. The patient had suffered for ten years with symptoms of prostatic enlargement. The urine was alkaline and offensive, and contained a number of flaky masses; under the microscope these were found to be altered mucus and embedded in them were a number of dark-blue bodies, apparently composed of some crystalline material partly stained by indigo, partly having indigo deposited on them. He considered these to be

either urate or phosphate. He knew of no artificial method whereby indican present in alkaline urine might be decomposed so as to form indigo blue without inducing an acid reaction. He thought the form of the indigo was determined by the form of the substance on which it had been deposited. Dr. Ord then described the ordinary method of obtaining indigo from urine either in the form of a solution in chloroform, or in a film deposited on the surface of the fluid. If a solution of uric acid were previously added to the urine, crystals of uric acid partly stained and partly incrusted by indigo were found at the bottom of the fluid. Epithelial cells, yeast cells, and rod-shaped bodies resembling bacteria were also found similarly stained, and occasionally hedgehog crystals presumably consisting of uric acid were found deeply colored. Dr. Ord suggested that possibly nascent indigo might be of use in the staining of bacteria.

At the same meeting of the Society the various officers for the ensuing year were elected. An unexpected incident occurred to vary the usual tameness of the proceedings. The method in vogue at this and the other medical societies of appointing the office bearers is simplicity itself. The outgoing Council nominate their successors, and the members pass the list as a mere matter of form. On the present occasion, however, another secretary was substituted for one of those chosen by the Council, and loud are the murmurs in consequence. Many members did not vote at all, regarding the election as a mere formality. I understand that a comparatively small number of members were able, by substituting the name of another gentleman on their ballot-paper, to secure his election. An appointment by a minority cannot, of course, be regarded as an ideal method, but there is certainly another side to the question besides that presented by those who complain of the recent incident, and that is, whether some radical alteration in the method of appointing office-bearers is not desirable? Why should the nomination be left to the Council, and, if that is to continue, why should not several names be selected for each appointment and the majority of votes decide the result?

In my last letter I stated that no death from influenza had taken place within the metropolitan area during the preceding week, and that the epidemic had practically disappeared. I find that I was in error. The epidemic has, it is true, almost disappeared, but some deaths from it still occur weekly, and ten deaths from influenza were registered in London during the week in question.

Small-pox is still steadily increasing, both in London and the provinces. Further facilities for isolating cases in the earlier stages are urgently needed, at any rate in the poorer districts.

Is it any part of the duty of a medical man to cleanse a corpse before or after making a post-mortem examination? The London County Council think not. At any rate they have refused to allow any payments for such cleansings. At a recent inquest the medical man who made the post-mortem drew attention to the state of the body, and the coroner explained that his officer had not cleansed the body because he could not be paid. The jury expressed an opinion that the County Council should pay for such cleansing.

Dermatological Prizes.—The prize which was offered in 1891, by Dr. Unna, of Hamburg, for the best essay on "The Topography of the Elastic Tissue in the Skin of Adults," has been awarded to Dr. Zenthöfer, of Stallupönen. *The British Medical Journal* announces that the subject of the prize of $75, for 1892, which is open to all competitors without restriction, is "The Wasting and Regeneration of the Elastic Tissue of the Skin under Different Pathological Conditions." The judges are Professors Klebs and Hoyer. Essays must be sent in by the beginning of December, 1892, to Leopold Voss, publisher, Hohe Bleichen 18, Hamburg, from whom any further information that is required may be obtained.

OUR BERLIN LETTER.

THE SEVERE FORMS OF ANÆMIA—THE IMMUNITY QUESTION—CIRRHOSIS OF THE LIVER—HYPNOTISM, SUGGESTIONS AND THERAPEUTICS—A NEW BREAD FOR DIABETICS—THE ELEVENTH CONGRESS FOR INTERNAL MEDICINE.

BERLIN, May 15, 1892.

Of all scientific congresses which have taken place in our congressional century, the one for "Internal Medicine" has proven the most fruitful and profitable, inasmuch as such great and shining lights of medicine as Frerichs, Kussmaul, Gerhard, Liebermeister, and Leyden, stood by its cradle.

This Congress, which lasted from April 20th to 23d, in Leipsic, had some very important and interesting lectures, from which we will only give sketches of the most important.

Firstly, we may mention the "Severe Forms of Anæmia," by Professor Birch-Hirshfeld, Leipsic, and Professor Ehrlich, Berlin.

Birch-Hirshfeld maintained that a vast difference should be made between secondary anæmias and chlorosis, on the one hand, and the really severer forms of pernicious anæmia, on the other hand. The latter (pernicious anæmia) is characterized by the lessening of the number and degeneration of the red blood-corpuscles, with resulting breaking-down in the tissue (fatty degeneration), increased excretion of uric acid or urea, and peptonuria.

Decrease of the red blood-cells is probably induced because of the immense breaking-down and destruction of the cells, in which there is an insufficient compensatory regeneration from the blood-forming tissues, especially those forming the bone and marrow elements.

As a reason for this breaking-down of the blood corpuscles, there may be several detrimental causes, which, by decomposing the blood-plasma, or by direct action on the blood-corpuscles, destroy the normal equilibrium.

The following etiological factors might be summarized: 1. Excessive loss of blood. 2. Disturbances of digestion. 3. Parasites (anchylostomom duodenale, bothriocephalus latus, triocephalus). 4. Gravidity and the puerperium. 5. Chronic infectious diseases, *e.g.* (malaria and syphilis). 6. Toxic processes.

In regard to the therapeutics the speaker mentioned that arsenic was of undoubted value in a given number of cases, and transfusion would produce palliative results in a certain class of cases. The main sides of the treatment depended, however, on the dietetic and climatic management.

The second speaker, Professor Ehrlich, mentioned the anomalies of the blood in the living body. From the red blood-corpuscles the regenerative and the degenerative forms can be differentiated. To the latter belong the various cracked forms (Schistocyten or Poikilocyten), as also those forms in which different changes in the structure and chemical composition take place within the cell-body of the red-blood elements. The latter one is characterized by the difficulty with which it stains; the former, by the appearance of strange organisms within the centre of the cell-body, so-called hæmoglobinæmic inside bodies. Here we have to deal with a slow loss of the coloring matter of the blood until we have a very pale blood-film left, so-called shadows ("Schatten").

The regenerative forms are nucleated red blood-corpuscles, of which we can distinguish two forms, a smaller (normoblasts), and a very large form (megaloblasts), with very weak-staining nucleus.

The first are found in the normal state in the blood-forming organs, and are found in the circulation blood of adults only by changes in the blood during poisoning (certain kinds only), or by simple secondary anæmias only.

The megaloblasts are held by Ehrlich to be the embryonal formation types of the red blood-corpuscles, and

appear as regenerative forms only in the malignant forms of pernicious anæmias and then in very small numbers in the blood. They are a characteristic sign of a severe form of disease.

In the bone-marrow we find a compensatory rebuilding process in the severer anæmias (red marrow), which is, however, entirely absent in the severe forms of pernicious anæmias.

The leucocytosis, the speaker believes to be due to the emigration of the polynuclear cells of the bone-marrow. The discussion which followed was participated in by Trojé (Berlin), Fürbringer (Berlin), Klebs (Zürich), and Dehio (Dorpat).

The second important point for discussion was the interesting "immunity question." Professor Emmerich (München) believed that a certain portion of the blood and tissues of immune individuals (Immunproteine) possess the property of rendering immune healthy bodies into which they are introduced, healing sick bodies into which they are brought, by the action which they have on the already-formed toxine, by neutralizing the same, and by destroying all the micro-organisms.

Professor Hüppe (Prag) referred to the immune substance produced from the bacteria forming toxines, but believed that the cells of the body and organism produced immune products.

Professor Buchner (München) remarked that blood serum contained prophylactic substances against bacteria so long as it contains snfficient salts, *e.g.*, chloride of sodium, chlorate of potassium, and chloride of ammonium.

Dr. Klemperer makes a strong difference between inoculation with serum of already immune animals (whereby the immune action occurs very quickly) and between inoculation with diluted clear cultures whereby the immune-rendering substance, which is much slower produced and effected, remains. For the treatment of already infected animals or human beings, the much-quicker-acting serum therapeusis would be called for. With this supposition, there was proven that in twenty cases of inflammation of the lungs the serum therapeusis caused a very mild course of the disease. The speaker believed that poisons generated by the infectious diseases were paralyzed by the serum, whereas the bacteria were, by the constantly arising leucocytosis, enclosed in the white blood-cells and destroyed therein (phagocytosis).

Dr. Wassermann (Berlin) differentiated between immune-rendering and poison-fastening, or, as he terms them (Immunisirung und Giftfestigung). The former is a protection against the development and growth of the bacteria, whereas in the latter a paralysis of the toxines is produced by the bacteria by means of the serum, therapeutics, or inoculation of the thymus gland extract.

If we inject only the substances produced by the bacteria, which through acute leucocytosis contain the antitoxine, we receive an immunity, but a very slow one, and also a very unreliable one.

Finally, Dr. Metchnikoff (Paris) spoke and agreed with the views entertained by Klemperer. The increased healing or curing force of the organism is produced by the immune-rendering therapeutics, and shows itself by the increased production of the white blood-cells, which are really the nest-destroyers of the bacteria.

Another important subject under discussion was the question of "Cirrhosis of the Liver." Prominent references were made by Professor Rosenstein (Leyden) and, Professor Stodelmann (Dorpat).

Professor Rosenstein gave a brief historical review of the development of the study of liver cirrhosis since the fundamental studies and examinations of Laennec and Charcot. From the latter investigator the subdivision of liver cirrhosis into contracted and hypertrophic was first sharply defined and formulated, and distinctly separated.

Among English clinicians Todd accepted and agrees with the latter formulation.

In Germany there remained, however, contrary to the opinions of the observers above mentioned, the prevalent idea, that these two conditions of the liver were merely different stages of the same disease, and that the contracted stage usually preceded that of the hypertrophic stage. He further believes that the different histological processes, and the different previously observed clinical symptoms, are the result of two entirely different diseases, the one the hypertrophic, the other the atrophic, cirrhosis of the liver; but adds that a third condition, characterized by its short duration, is also observed, wherein we first find an enlargement and then a contraction of the organ.

Professor Stadelmann does not accept the reasons for a distinct division as already mentioned, but adheres rather firmly to the old theory that we are dealing with several distinct stages of the same disease. Among the causes which especially induce the atrophic cirrhosis of the liver, alcohol is the most frequent one. Furthermore, the etiological factors must be taken into consideration—lead-poisoning and different infectious diseases, syphilis, tuberculosis, malaria. For the other forms the causes are unknown.

The reason for the most characteristic symptom causing hypertrophic cirrhosis of liver—the icterus—has not been yet sufficiently proven.

A very lively discussion bore upon certain maxims for the separation of the two forms of cirrhosis of the liver, and also their symptoms and therapeutics, and was participated in by Professors Müller, of Marburg; Fürbringer, of Berlin; Ackerman, of Halle; v. Liebermeister, of Tübingen; Ebstein, of Göttingen; Lænhartz, of Leipsic; Minkowski, of Strasburg. Professor v. Frey, of Leipsic, referred to a very interesting observation that icterus, after closure or obstruction of the ductus choledochus, would disappear when a ligature was placed around the ductus thoracicus.

The remaining papers read, numbering fifty seven, comprised all subjects pertaining to internal medicine. It would, however, carry us too far to try to outline them, but we will try to give a brief *résumé* of two of the most important of these.

One is entitled "Suggestions on Therapeutics and Hypnotism," by Professor Binswanger, of Jena, one of our most prominent psychiatrists. The supporters of hypnotism believe that it should be universally adopted by physicians. This is wrong, for the benefits are not such as to warrant its acceptance by the majority of medical practitioners. How is it, then, that these hypnotizers have such wonderful successes, and the general practitioners have not? The answer is: That the *hypnotiseur* brings large statistics, and endeavors to cure by their means. So, for example, they treat many diseases that would get well by many other known means, and then ascribe the cure to hypnotism. It is plain that those disorders dependent on the brain are those most accessible to this plan of treatment, excepting, perhaps, those functional disorders, *e.g.*, insanity.

Two important antagonistic points appear here in the treatment of the functional neuroses: 1. The management of pain; 2, insomnia.

Against severe pains these hypnotizers admit that their methods are powerless. Here the object is to attain relief from the pains, and this has been successful in one-eighth of all cases. The sleep produced by hypnotism is very quieting and refreshing, and the contrary of chloroform sleep. Doubtful is the stand-point to be taken in the treatment of hysteria, for it is frequently very difficult to hypnotize these hysterical patients, as at the time the *hypnotiseur* wishes to act the patient is frequently seized with hysterical spasms.

In all cases the successes are only temporary, the patients go back to their former condition and suffer relapses.

The brilliant results attained in the treatment of morphinismus must be carefully considered and cautiously ac-

cepted, for the hypnotic method still lacks a proper physiological basis.

It still is proper to give credit to the psychological healing methods, inasmuch as the suggestion, while the body is awake, constitutes the psycho therapeutics, cheers the patient, and makes him forget his real sufferings.

A very important discovery in the treatment of diabetes was mentioned by Professor Ebstein (Göttingen). He recommends a new nourishing substance called *aleunorat.*

It has the property of a dry, floury substance, yellowish color, tasteless, and odorless. It contains about eighty to eighty-six per cent. of albumin and only seven per cent. of carbohydrates. With this aleunorat flour various substances and preparations can be made to suit the diabetic.

So, for example, it can be utilized for soup, for sauces, for vegetables, and as a bread flour. It can be prepared for a daily bread, the aleunorat bread containing fifty to sixty per cent. of albumin. The bread has no disagreeable taste, and is decidedly cheap, which is an advantage for poor people.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 11, 1892.

	Cases.	Deaths.
Typhus fever	2	1
Typhoid fever	4	7
Scarlet fever	120	21
Cerebro-spinal meningitis	2	6
Measles	551	54
Diphtheria	66	26
Small-pox	9	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

A Plan for the Promotion of Temperance, not teetotalism, that would doubtless be very popular here as well, was that of the late Count von Moltke. He believed that the most reasonable and feasible plan for minimizing the injuriousness of drink was to reduce the price of sound light beer.

The Chemical Pathology of Diphtheria.—In the "Gulstonian Lectures" recently delivered at the Royal College of Physicians, London, Dr. Sidney Martin discussed the chemical pathology of diphtheria and compared it with that of anthrax, infective endocarditis, and tetanus. Speaking first of anthrax, he said that if its bacillus were grown in a medium which resembled the fluids of the body (by containing an animal proteid and a certain proportion of mineral salts), it digested the proteid with the formation of products resembling chemically those found in peptic and in tryptic digestions—with the exception that the final product was a base, an organic body forming salts with acids. The two classes of products were both found to be present in the blood and tissues of animals suffering from the natural disease, but the amount of the alkaloid was much greater than that of the albumoses, and an investigation of the physiological action of the products showed that the alkaloid was the chief agent in producing death. When introduced into the body the bacillus began to digest the proteids, the products of digestion caused a local œdema containing (like other pathological effusions) a large quantity of proteids in solution—proteids which were outside the metabolism of the body, and which, therefore, served as a suitable food for the bacillus. The absorption of the digested products from the local œdema and from the other parts of the body in which the bacillus grew, produced the symptoms of the disease, and it was to the gradual accumulation of the poisonous anthrax base that the stupor ending in coma and death was due. These bodies were the specific products of the bacillus, and were readily recognized either in a cultivation, or when separated from the tissues of an animal dead of the disease.

The chemical study of diphtheria was commenced by examining the tissues of patients dead of diphtheria, in the first instance, before making any attempt to isolate the products of the bacillus diphtheriæ. Two classes of substances were found present, but whereas the bacillus anthracis produced albumoses and an organic base, in diphtheria we had albumoses and an organic acid. The albumoses of diphtheria could not be distinguished from those of anthrax or from those of peptic digestion by chemical means, but only by their physiological effect. The intra venous inoculation of rabbits with the albumoses found in the tissues in diphtheria produced a local œdema, fever, paresis of the muscles, loss of weight, and diarrhœa. A striking feature of the action of these albumoses was that the effects might be prolonged. The blood of animals dying after injections was found to coagulate slowly. This slow coagulability of the blood (which was a well-known feature of the action of albumoses on the blood) showed that in animals dying several days after inoculation the diphtheria albumoses were still present in the blood, and this condition of the blood in animals explained why diphtheritic paralysis in man could occur some time after the acute disease was past. The organic acid found in the bodies of diphtheria patients was, like the albumoses, a nerve-poison and capable of producing the same anatomical changes in the nerves. (These changes were described at some length by the lecturer.) The chemical and physiological examination of the diphtheritic membrane showed that there existed in it a poison associated with the proteid and precipitated by alcohol, which produced exactly the same result as the albumoses found in the blood and spleen of diphtheritic patients. It was, however, a poison much more virulent, since a single dose produced a result which only multiple doses of the albumose could effect. Dr. Martin observed that it had been shown that the bacillus diphtheriæ formed from proteids products of the same chemical nature as those found in the bodies of patients dead of diphtheria, viz., albumoses and an organic acid. The albumoses formed by the bacillus diphtheriæ in artificial cultivation had in single and multiple doses the same physiological action as those found in cases of diphtheria in man. The bacillus diphtheriæ was, therefore, the primary infective agent in diphtheria. The bacillus liberated in the membrane a ferment which, when absorbed, digested the proteids of the body, forming albumoses and an organic acid. These digested products were the agents in causing death, and in producing the fever, depression, and the paralysis which followed diphtheria. It was clear that the diphtheria products found in the body did not all come direct from the membrane. The large amount of albumoses and organic acid found in the spleen showed that something more than absorption from the membrane was going on. It was probable that the ferment absorbed from the membrane digested the more or less stagnating proteids in that organ, and we knew, indeed, that the spleen contained a proportionately larger quantity than the blood of bodies formed from proteids, such as uric acid, xanthin, etc. A chemical examination of the blood and spleen in a case of endocarditis showed that the same two classes of products were present as in anthrax and diphtheria, viz., digested proteids or albumoses, and a non-proteid product which, when first separated and purified, was strongly acid. The same two classes of poisons were found to be present in tetanus.

Dr. Martin said it had become clear to him that these chemical products were specific in their action—that those formed by one bacillus were separable to a certain

extent chemically, to a greater extent physiologically, from those formed by other pathogenous micro-organisms. The rôle of the spleen was obscure, but the chief point about the organ, from a pathological point of view, was that the blood flowed through the walls of the vessels into spaces; thus we had a more or less stagnating fluid, the proteids of which could be digested either by micro organisms, or by ferments. In anthrax and infective endocarditis the organ was greatly enlarged; it was usually normal in size in diphtheria. In all three cases it was the proteids of the spleen from which the specific poisonous products were mainly formed; they served as the food of the infective agents, primary or secondary. Pathological effusions, whether already present in the body, or formed by the primary infective agent, were also suitable culture media; they might, speaking generally, be considered as slightly alkaline solutions of proteids which were outside the active metabolism of the blood, *i.e.*, the proteids were not in a living fluid like the blood. In diphtheria and in infective endocarditis fibrin served as the medium in which the micro-organism flourished.

In these disorders the primary infective agent or living contagium produced its effect in man by means of its specific chemical products, which it formed from the body proteids with or without the intervention of a ferment. It might be that in all cases the chemical substances were produced by means of an unorganized ferment excreted by the primary infective agent, but in only one of the diseases examined, viz., diphtheria, was there any evidence that this ferment played a direct pathological rôle. In this disease the bacillus was limited to the superficial parts of the membrane, and did not diffuse itself throughout the body. Something was excreted by the bacillus and absorbed into the body, in the tissues of which were digested products. This excretion of the bacillus was looked upon as a ferment, and was called the "secondary infective agent." In anthrax and infective endocarditis, on the other hand, the primary infective agent was in the body itself, and there was no evidence that a ferment played any direct part in the causation of the symptoms of the disease. He suspected that in tetanus—which resembled diphtheria in the fact that the primary infective agent was limited to the site of inoculation—a ferment or excretion of the bacillus acted as a secondary infective agent. The secondary infective agent could not be expressed in any chemical terms, but only in terms of what it could accomplish, either, 1, of its physiological action, or, 2, of its capacity for forming from proteids chemical bodies which resembled it in physiological action.

A Proposed Remedy for the Dispensary Abuse.—Dr. W. E. Dawson, writing to the *Hospital Gazette*, suggests that at every dispensary and hospital a register be kept, easily accessible to local medical men, giving the names and addresses of all patients attended during a given week. "Medical men would thus become so many unpaid inquiry officers of the institution; and the secretary could then always reply to complaints of abuse—why don't you prevent it by inspecting the register and giving me confidential information?"

Cause of the Death of the Duke of Clarence.—Referring to comments on the absence of a specific knowledge of the direct cause of the death of the Duke of Clarence, it is pointed out that no single member of the royal family, or indeed other distinguished personage at all, went down to Sandringham between the death and the funeral of the prince. The Duke of Edinburgh travelled up to London *en route* for the Prince of Wales's Norfolk residence, on the day of the death, but was detained in town by a telegraphic despatch requesting him not to come. Similar deterrent causes prevented the presence of other royal relatives. The utmost caution was observed until the duke's body had been embalmed and removed to the village church at Sandringham. There is nothing sufficiently serious about influenza contagion to warrant such precautions, and it is suggested that a malady much more serious, and by no means unfortunately uncommon in the royal family, supervened on the influenza symptoms in the Duke of Clarence's case. Both Dr. Broadbent and Dr. Laking have now had their audiences with the Queen at Osborne, and the *Court Circular* goes out of its way to mention them both as "prolonged." Meanwhile the Prince of Wales and his family go straight back alone to Sandringham, seeing no one.—*Provincial Medical Journal.*

A Novel Excuse for Resignation.—A lieutenant in the United States Cavalry Service has written from New York to the Secretary of War, asking that his resignation be accepted for the reason that he finds himself unable to restrain his inclinations toward insanity.

The Bill to Regulate the Practice of Medicine in Maryland has become a law. This law practically confirms the Medical and Chirurgical Faculty of Maryland in its ancient authority as a licensing body. Not in its original extent—for all practitioners; but in a limited degree—for all future practitioners except Homœopaths. The promoters of the bill deserve the thanks of the medical profession of the State and of the whole country.—*Maryland Medical Journal.*

Comparative Action of the Different Brands of Chloroform.—Professor M. Charteris and Dr. W. MacLennan have tested the action of six different brands of chloroform upon guinea-pigs, and have found the following average results:

	Anæsthesia.	Respiration ceased.	Recovery.	Remarks.
	M. S.	M. S.	M. S.	
1..	4 20.0	1 36.6	7 40	No tremors.
2..	4 21.6	1 13.33	8 50	No tremors.
3..	5 8.0	1 50.0	12 36	Rhythmic tremors distinct.
4..	4 57.0	1 26.0	11 48	Rhythmic tremors distinct.
5..	3 59.3	4 43.3	18 20	Rhythmic tremors pronounced.
6..	3 55.0	2 0.0	13 20	Rhythmic tremors pronounced.

The conclusions from this research, so far as it goes, show that there is a very evident difference of action exhibited by chloroforms of different manufacture.

Primary Cutaneous Tuberculosis by Direct Inoculation.—An instance of inoculation upon the fingers from washing the handkerchiefs containing sputa of a phthisical patient is recorded by Dubreuilh and Anché. Secondary lesions of the axillary glands and region of the shoulder took place, but after thorough scraping healing took place. Microscopical and bacteriological examination confirmed the diagnosis.—*Centralb. für klin. Med.*, No. 32, 1891.

Russian Students of Medicine.—The total number of students in the University of Moscow on January 1, 1892, was 3,396, of whom 1,096 belonged to the medical faculty. The degree of Doctor of Medicine was conferred on but twelve candidates in 1891. At Charkow the number of students was 1,010. The number of licenses to practise medicine granted last year was 112. The number of students at Kieff was 2,110, of whom 942 belonged to the medical faculty. Seventy-eight licenses to practise medicine were granted during 1891.

Is This the Medicine of the Future?—Dr. Constantin Paul, of Paris, has been treating paralyzed patients by subcutaneous injections of a solution of the gray matter of the sheep's brain. This is, of course, a development of Brown-Séquard's experiments with testicular juice as a restorer of virile strength. A physician in this country has been using injections of double distilled extract of gonorrhœal pus in the treatment of rickety children whose fathers confessed to having had gonorrhœa in their youth. This is a fact. Then there is Koch's tuberculin. What are we coming to, any way?

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A STUDY OF TYPHUS FEVER,[1]

CLINICAL, PATHOLOGICAL, AND BACTERIOLOGICAL.

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TYPHUS FEVER is, fortunately, a rare disease in this country, and the few epidemics of which we have record are all directly traceable to importation from Europe. The reports of Dr. R. Robertson, a surgeon in the English navy during the War of the Revolution, show that in 1776 the fever prevailed among the British and American sailors in the naval hospitals at New York and Newport, but it apparently never spread to the townspeople nor to the armies operating on shore. Nathan Smith, writing in 1824, states that he saw "typhous" fever as early as 1787, in New Hampshire; but it is evident from his description that it was typhoid fever, and not typhus fever as now recognized.

The first well-authenticated outbreak of the disease was in the year 1807, at Hartford, and two or three other points in New England. The fever was epidemic in Philadelphia in 1812, and again in 1836. In was in the latter year that Gerhard made the observations which have had a large share in establishing a correct idea of the disease. The first considerable epidemic in New York was in 1847, following the Irish famine of that year. In 1861 the disease was again introduced here by Irish immigrants, and did not finally disappear until three years had elapsed. Since that time it has been twice mildly epidemic in this city—in 1881, and again in February of the present year. In all these cases the fever was brought to this country by immigrants from regions where it is endemic. It is an interesting fact that the disease has never become endemic here, but has always disappeared when suitable hygienic measures have been brought to bear upon it. It is believed to be always present in Ireland, Russia, Poland, and Bohemia. This endemicity has been attributed to certain characteristics of the races in those countries, which serve to perpetuate the germ. But we have many thousands of those races here, and yet the disease never breaks out among them spontaneously, nor do they show an especial susceptibility to the imported contagion. In the recent epidemic, indeed. the mortality was much heavier among the Americans who acquired the disease than among the Russian Hebrews who brought it with them. The fact that typhus fever was not introduced into America until comparatively recent years has probably much to do with our exemption from its ravages. Had the immigrants of the last century been infected with the disease, it might well have obtained a firm foothold among us. But modern sanitation has taught us how to fight such diseases, and it now requires but a comparatively short time to get them under control, provided they are recognized before they have spread too widely.

A comparison between the epidemic of 1861 and that of February of this year will show what can be accomplished by intelligent and energetic hygienic measures. In 1861 [1] the first case was that of a little girl, who was brought into a tenement-house in Mulberry Street, ten days before she became ill, from a ship which had had cases of typhus fever on board. Two weeks after her illness began, her aunt took the disease and died. In gradual succession nearly every family in the building took the fever. Becoming frightened, some of these families moved into other streets, formed the nucleus for the development of the disease in different localities, and it soon became a widespread epidemic. There was constant and unrestrained intercourse between the healthy and the sick. As a result of this lack of supervision and control the epidemic lasted for three years, and several thousand persons suffered from the fever. Let us contrast these figures with those of the recent epidemic.

On February 11th, Dr. Edson, Chief Inspector of Contagious Diseases, learned of the presence of 44 cases of typhus fever in this city. All these cases were among Russian Hebrews who had arrived in this port a few days previously in the steamship Massilia. This emergency called for immediate action. As stated by Dr. Edson,[2] there are only two ways of fighting typhus fever. These are: 1, Isolation of the sick and those exposed to the contagion; and 2, the destruction, or thorough disinfection, of all articles which may have come in contact with the sufferers. These measures were both carried out on this occasion, with the result that the disease was soon well under control. The sick persons, as well as all known to have been exposed to the contagion, were at once transferred to the Hospital for Contagious Diseases on North Brother Island. The 44 original cases had been found distributed in several lodging-houses filled with other Hebrews, and yet only 185 persons in all suffered from the fever.[3]

It is now generally admitted that typhus fever never arises spontaneously, but is always due to contagion from a previously infected individual. But there are certain conditions which favor greatly the spread of the specific poison. These conditions are overcrowding, filth, and destitution. Murchison, indeed, believed that such conditions of themselves were sufficient to generate the disease *ae novo*. David Hosack, also, as a result of his observation of the disease in New York, wrote. in 1820: "Typhus is the product of confined human effluvia, the result of the filthy mode of living unavoidable among the poor." Such was the common opinion in the early part of this century among physicians both in Europe and in this country. Murchison cites many observations in support of his theory of spontaneous generation, but in the light of modern experience they carry no weight whatever.

The importance of early diagnosis has been alluded to above. Unfortunately, during the first two or three days

[1] The clinical observations recorded in this paper were made in the wards of the Riverside Hospital, on North Brother Island, New York City.

The writers desire to express their thanks to Dr. Cyrus Edson, now Sanitary Superintendent of New York City, to whom they are indebted for the privilege of visiting the Riverside Hospital; and to Dr. F. R. Percival, late Resident Physician at the Hospital, who gave them most efficient aid in the wards of that institution.

To Professor T. Mitchell Prudden, Director of the Pathological Laboratory, College of Physicians and Surgeons, Columbia College, they wish to express their obligations for his advice and assistance, rendered during the pursuance of their histological and bacteriological researches in the laboratory.

[1] A. L. Loomis: Practical Medicine, p. 714.

[2] North American Review, April, 1892.

[3] Since the preparation of this paper a few additional cases have been reported.

there is but little to distinguish typhus from any other fever.

The onset is usually sudden. The patient has a distinct chill or sense of chilliness. This is followed by severe headache, and pains and aching in the back and limbs. A sense of extreme prostration is felt almost at once, and many patients take to their beds on the first day of their illness. This prostration is accompanied with loss of appetite, coated tongue and high fever. These symptoms are present within the first twenty-four hours, but are not of themselves sufficient to warrant a diagnosis of typhus fever. Perhaps at this early period the abrupt rise of temperature, reaching sometimes 40.5° C. on the first day, and the great prostration, are the most noteworthy symptoms. The prostration increases as the disease advances, reaching its maximum on the tenth to the twelfth day. The fever presents no marked remissions during the first ten days, varying but little from 40.5° C. Then it defervesces more or less rapidly in cases ending in recovery, reaching normal figures on about the fourteenth day.

The typhus facies is usually referred to as characteristic of the disease, and it was very marked in most of the cases seen in the recent epidemic. On entering a ward containing perhaps twenty five beds, one was at once struck by the uniformity of expression of the occupants. This was probably partly due to the fact that they all belonged to the same race of peculiar people, at least in the beginning of the epidemic. But the same physiog nomy was also noticeable when other nationalities were gradually introduced, taking the beds vacated by the Hebrews who had gone before. There was the same congested, dusky face. The conjunctivæ were injected, the eyelids and lips, as a rule, half opened when the patient was lying undisturbed. The absence of any anxiety in the face was also marked. Not one of the patients with whom I came in contact expressed any concern as to the outcome of his own illness, though when convalescent he was always anxious as to the condition of his relatives or friends about him.

The typhus odor, usually likened to that of mice, was not pronounced in these cases This may have been due to the bathing and constant care given to the patients by Dr. Percival, as well as to the very efficient system of ventilation insisted on in all the wards. On only one visit, when some new patients had just been brought into the ward, was the odor recognized. It was, as described, very offensive and sickening in character. All the nurses and orderlies, who of course see the typhus patients before they are washed, insist that the odor is always present and is very characteristic, especially on the first three days of the disease. If this is the case, it is a valuable symptom at a time when the fever is most difficult to recognize.

The cardinal symptom of typhus fever is, of course, the eruption. Until this appears, the diagnosis must remain uncertain. When it is abundant and well-marked, especially if petechial in character, there is generally no further room for doubt. An eruption of some sort was present in all of the cases under observation on North Brother Island, but it was not very characteristic as a rule. It was usually dark-colored, but often very faint. the spots disappearing on pressure. In fact, many of these cases, if seen singly in their own houses, and without a history of exposure to contagion, would probably go unrecognized Petechiæ were very rare, but present and persistent after death in most of the fatal cases.

Many of the above symptoms are to be noted only when the disease has been under observation for a certain length of time. Even when the principal ones are present, including the eruption, the diagnosis must sometimes be doubtful in the absence of a history. Dr. A. R. Mott[1] cites a case in illustration of this: A man was brought into Bellevue Hospital from the street, unconscious, and supposed to be drunk. The surface of the body was of a dusky hue, the face flushed, the eyes injected, and the pupils small. Over the abdomen and chest, and upper parts of the arms and thighs, were scattered, rather profusely, small petechial spots, mostly of minute size. The temperature was 40° C., the pulse 120, the respiration 36. Dr. E. G. Janeway saw the patient, and, while agreeing that the case was probably one of typhus, he saw nothing in the conditions that might not be as well explained—in the absence of previous history—by the presence of acute ulcerative endocarditis. The patient lived for thirty-six hours, and died without recovering consciousness. On autopsy, well-marked ulcerative endocarditis was found, with embolism of the middle cerebral and other smaller arteries of the brain, and infarcts in various organs. The spleen was normal in size and consistency.

[1] American Journal of the Medical Sciences, April, 1884.

There are other diseases, more common than ulcerative endocarditis, which may closely simulate typhus fever in many, if not all, of its symptoms. Such are, more especially, typhoid fever, measles, meningitis, acute lobar pneumonia, and uræmic coma. The history and course of the disease, with attention to the physical signs, are usually sufficient to enable a diagnosis to be made.

Of the one hundred and eighty-five cases on North Brother Island twenty-eight died, giving a mortality of fifteen per cent., which is rather less than the usual rate. Some of the deaths were due to complications, but the majority to the fever itself. Four autopsies were made, and all the organs examined except the brain and spinal cord. The pathological appearances were pretty nearly the same in all, varying only in degree. These lesions were—acute degeneration in the liver and kidney, with swelling and hyperplasia of the spleen. The other viscera presented no noteworthy changes.

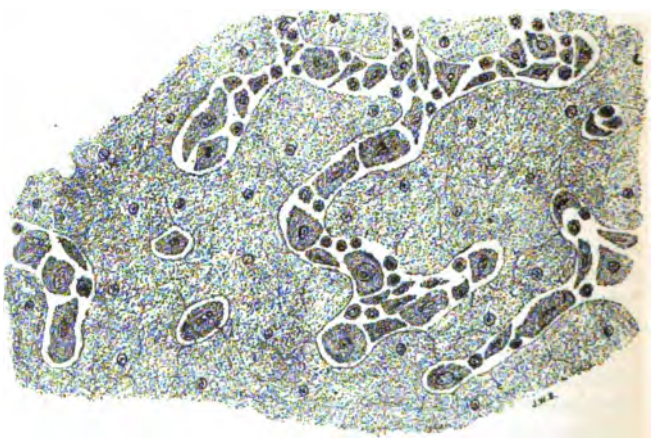

FIG. 1.—Section of Liver, showing Cells in the Capillaries.

In the liver there was a moderate degree of swelling and increased granulation of the liver-cells. Careful search was made for such minute foci of cell-necrosis as have recently been described as present in several acute infectious diseases, but with negative result. In one case, which died while the temperature was very high, I noticed, in a degree which is very unusual, an accumulation of large, irregular, moderately granular cells, either free in the liver capillaries or clinging to their walls. These cells appeared to be swollen and detached endothelium. A typical portion of this liver is represented in Fig. 1. I would not attach especial significance to this lesion of the capillaries in connection with this disease, but simply record it as a contribution to the too little understood lesions of vascular endothelium in acute infectious diseases.

The kidneys showed granular degeneration of the tubular epithelium, with considerable disintegration. The spleen presented the usual appearances of acute hyperplasia.

J. W. B.

THE most important studies hitherto made on the etiology of typhus fever are those of Hlava, of Thoinot and Calmette, and of Lewaschew.

Studies of Hlava.[1]—In 1888 Hlava, during an epidemic of typhus fever in Prague, examined bacteriologically the blood and viscera of thirty-three cadavers, and the blood-crusts and urine of ten cases during life. A bacillus was isolated from the blood of twenty of the cases which had died, and from two of the living patients. This bacillus differed from any known form. He described it as an "ovoid coccus," or a very short bacillus, growing in pairs and in chains. From this latter growth-character he termed it a "strepto-bacillus." Its diameter varied from 0.9 μ to 1.2 μ, the length of the ovoids was about 0 9 μ, that of the bacilli 1.8 μ, while the terminal individuals of the chains grew to the length of 2 to 3 μ. In broth it developed rapidly at body temperature, forming chains, and was without visible spores. No growth was obtained in gelatine at 20° C.

Plated in agar, the deep colonies were circular or oval, and opaque, the surface colonies circular, lace-like, and whitish, with an opaque centre and transparent edges. The diameter of the largest colonies did not exceed 2 mm., and when magnified about one hundred diameters they appeared granular and showed very fine threads on their borders. The growth on human blood-serum presented the same characters. No growth was found on potato. Human and veal broth showed a rapid growth, which settled in the form of a white precipitate, while the fluid above remained clear. The "strepto-bacilli" died in eight days in broth, and in twelve to fourteen days in agar. They stained with all the aniline dyes and by Gram's method.

Culture inoculations of the strepto-bacillus in rabbits, guinea pigs, dogs, cats, mice, and pigeons were not fatal; a slight elevation of temperature was noted for a few days, after which they recovered. The animals were killed and platings made from the organs, but the inoculated bacillus was not found.

Inoculations in two young pigs gave more positive symptoms. In one case the temperature rose to 41.4° C. on the eighth day, and for sixteen days remained above 39° C. On the fifth day small reddish spots appeared on the skin, and disappeared after three days. In the other case no spots appeared.

Loss of appetite and flesh were marked symptoms in both cases. The animals were killed, and on autopsy showed a "degeneration" of the kidneys and tumefaction of the spleen. The bacilli were not found in the blood or spleen, but were found in the kidneys of one case, and in an area of broncho-pneumonia in the injected lung of the other. Virulence of the cultures for young pigs was lost after a short time.

Thus, in brief, Hlava found the "strepto-bacillus" in the cadavers of twenty out of thirty-three cases which had died of typhus fever, and in two out of ten cases, from the blood during life. The results of his animal experiments seem to be of little significance.

Studies of Thoinot and Calmette.[2]—These writers studied seven cases of typhus fever during an epidemic of the disease on the island of Tudy. Platings were made from the blood of all the cases and gave negative results. Inoculations of blood were made in rabbits, guinea-pigs, and pigeons, with negative results. The only positive results obtained were from the examination of fresh unstained blood, and in this these observers found constantly present, certain motile "granules," measuring 1 to 2 μ, provided usually with a short, thread like prolongation. Unattached motile threads were also found. These bodies moved rapidly among the blood cells. The writers claim that this "organism" differs from forms of degenerated blood-cells described by various writers.

[1] Hlava: Archives Bohême de Médecine, 1889-90, vol. iii., p. 122 (Sborink Lékárský).

[2] Annales de l'Institut Pasteur, tome vi., No. 1, January, 1892.

Studies of Lewaschew.[1]—Lewaschew found constantly in fresh blood from the spleen in "numerous cases"—he does not state how many—minute organisms, sometimes appearing as threads, sometimes as spheres having a thread-like attachment, which move actively among the blood-cells. He also obtained from spleen puncture and finger-blood a slow-growing micrococcus which he has not yet described, nor does he state the number of cases in which he found it.

Original Studies.—The primary purpose of this paper is to record the results of a morphological and biological study, made during the recent outbreak of typhus fever in New York City, with a view of throwing some light, if possible, on the etiology of the disease.

The material was furnished to me by Dr. Brannan, and consisted of the viscera from three cadavers, and blood obtained by finger-puncture from six living patients during the height of the disease, while the temperature recorded was 40° C. or over.

Examination of the Viscera.—These were brought to the laboratory uncut, wrapped in cloths moistened in one pro mille bichloride solution, and platings and sowings were made at once on their arrival, with the usual precautions against contamination. Portions were hardened in alcohol for morphological study.

CASE I.—Sections[2] of the spleen and kidney were stained by Gram's method, and examined under a one-sixteenth oil immersion, for any micro organism which might be present, but none were found.

Platings were made on six per cent. glycerine, agar, and sowings in beef broth, from the heart's-blood, spleen, and kidney, and kept at 37.5° C. and at room temperature. The plates were kept under observation for twelve days, and the tubes for a much longer period, but no growth occurred.

CASE II.—Sections of the spleen and kidney were stained and examined as in the former case, with a like negative result.

Cultures were made as in Case I., but only a negative result was obtained after twelve days of observation.

CASE III.—In sections of the spleen, liver, and kidney no micro-organisms of any kind were found.

Cultures were made from the heart's-blood, spleen, kidney, and liver. The platings were on beef blood-serum, and on six per cent. glycerine agar, in Petri dishes, and in Blücher's anaerobic plates. The sowings were in beef blood-serum, both fluid and coagulated, in sealed and unsealed tubes; in beef broth and glycerine agar tubes; by deep puncture in alkaline agar tubes, and in Nikiforoff's anaerobic tubes, charged with six per cent. glycerine beef broth. All of these cultures were kept at 37.5° C., and were studied daily for sixteen days, many of the tubes for a much longer period. In no case was there any growth, except some scattering later contaminations on the plates.

Examinations of the Blood.—The blood, obtained under strict antiseptic precautions from the six living patients, was streaked on six per cent. glycerine agar plates, and smeared on sterilized cover-glasses by Dr. Brannan, and brought at once to the laboratory. The cover-glass blood-smears from all the cases being dried at once in the air, were fixed in alcohol, and stained in Czenzynski's solution for eighteen hours, at room temperature. Although all of these covers were examined throughout with a one-sixteenth homogeneous immersion lens in the most careful manner, in only about one-half of them a few blue-stained bacilli were found, never more than eight or ten on a cover. In length they never exceeded one third of the diameter of a red blood cell, although usually not more than half that length. The diameter was not more than half the length of the smaller bacilli. They were round-ended, and were usually found singly, lying apart from the blood-

[1] Deutsche Med. Wochenschr., Bd. 18, No. 13, p. 279, 1892.

[2] These sections were examined by me only for micro-organisms; the histological examinations are described above by Dr. Brannan.

cells, but in a few instances groups of from three to six bacilli were seen.

Platings, made from the blood of the six patients, were kept at 37.5° C., and showed a growth of colonies among the blood-cells in from two to four days. In all of the cases some of the plates remained sterile, while the plates on which growth was found developed a very variable number of colonies. In one case between sixty and seventy colonies developed on one plate, in another case twenty-six were found, while but one single colony was developed on each of two plates in one of the cases examined. These colonies, while thus present in varying numbers in all of the six cases, presented the same general appearance. Cover-glass preparations showed that the colonies were formed of small bacilli, and subsequent morphological and biological study has proved them to be identical in all the different cases.

Description of the Bacillus.—*Morphology.*—The diameter of the bacillus varies from 0.5 μ to 0.8 μ, and the length from 1.0 μ to 2.5 μ. It occurs singly and in pairs (Fig. 2),

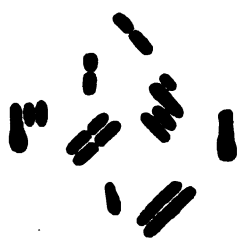

FIG. 2.—Bacilli from Culture, showing Irregularities of Form and Staining.

infrequently in short chains of six or eight. It is often club shaped, and is found to be ovoidal in young cultures. It stains readily with the ordinary aniline dyes, and retains the color after staining by Gram's method. After some days' growth certain of the bacilli stain irregularly, presenting a sort of mottled appearance. The bacilli are immobile, and spores were not found, although some of the club-shaped bacilli show circular unstained spots which do not color by the methods usually employed for spore-staining.

Mode of Growth.—Under the most favorable circumstances growth is not voluminous. The most abundant growth obtained was on beef blood-serum at 37.5° C. No growth was obtained on gelatine, nor on any medium at a temperature under 27° C. Development occurs under mica plate, and in an atmosphere of hydrogen, butthe growth is not so abundant as in aerobic cultures.

The colonies of this bacillus growing on six per cent. glycerine agar plates present to the naked eye, in about eighteen hours, in oblique light, a scanty growth, consisting of minute, bluish gray, translucent spots. The diameter of the largest colonies at this time does not exceed 0.25 mm. Older colonies appear dry and scaly to the naked eye, are flat, whiter, and more opaque, and never exceed 2 mm. in diameter. These colonies, when examined by a hand magnifying-glass, show a central thickening. The younger colonies, examined under low powers, are rounded in outline, the surface is granular, the edge sinuous and sharply defined. On very moist agar the sharp definition of the edge is lost. Under these low powers the colony has a pale brown color, which is deeper in the centre and in scattered points over the surface, an appearance probably due to the irregular heaping of the growth. When magnified about one hundred diameters the surface appears coarsely granular, and the edge is formed of short, coarse, irregular spiculæ.

Glycerine agar tubes at 37.5° C. show the same surface-growth appearances as the plates. In the line of puncture small, white, isolated colonies occur, and in the condensation water there is a white deposit, quite perceptible in twenty-four hours, the fluid above remaining clear.

On coagulated beef blood-serum, at 37.5° C., the growth is slightly elevated, white, and shiny. In beef broth at 37.5° C. the growth is slight, and settles in the form of a white precipitate, the fluid above remaining clear. In milk at 37.5° C. growth occurs in the form of a white deposit—the milk undergoes no apparent change. No visible growth was obtained on potato or on macaroni.

Animal Experiments.—Inoculations of from $\frac{1}{4}$ to $\frac{1}{3}$ c.c. of a broth culture from patient J. S—— were made in the ear-vein of two rabbits, and in the subcutaneous tissue of the abdomen of one rabbit and two guinea-pigs, and in two white mice.

All the animals lost flesh rapidly. The two guinea-pigs died on the tenth day, on the twelfth day one mouse and one rabbit died, and on the thirteenth day the remaining mouse died, and the two remaining rabbits were killed. Examinations of all these animals, made as early as practicable after death, showed nothing abnormal in the gross appearance of the viscera. Cultures were made from the blood and viscera of the guinea-pigs, and from the heart's-blood of all the other animals, but the inoculated bacillus was found only in the case of the rabbit which died on the twelfth day after inoculation in the ear-vein.

Another series of inoculations were then made in the ear-vein of five rabbits, of about $\frac{1}{3}$ c.c. each, of a seven-day broth culture from patient M——. The animals all showed marked emaciation, and all of them died, one each on the nineteenth, twenty-first, twenty-third, twenty-fourth, and twenty-ninth days. The heart's-blood of these animals was plated, and the inoculated bacillus recovered only from one set of plates, those made from the rabbit that died on the twenty-first day.

Summary of Inoculation Experiments.—Inoculations of cultures of the bacillus obtained from two of the cases were made in eight rabbits, two guinea-pigs, and two white mice. All the animals showed marked emaciation, and with the exception of two rabbits all the animals experimented upon died in from ten to twenty-nine days. The inoculated bacillus was recovered from the heart's-blood of two of the rabbits that died.

Remarks.—The bacillus found seems to be a species hitherto undescribed. Biologically it bears considerable resemblance to the "strepto-bacillus" of Hlava—morphologically it differs, being somewhat smaller and there being but the slightest tendency to the formation of chains, which in the case of the bacillus of Hlava is described as a marked character. A striking difference is also shown in the effect of its inoculation in animals.

All things considered, the writer cannot believe this bacillus—for which the name Bacillus Sanguinis Typhi is suggested—to be identical with the "strepto-bacillus" described by Hlava.

General Summary.—Morphological and biological examination of the blood and viscera of three patients, dead of typhus fever, gave a negative result.

Morphological and biological examination of finger-blood from six living patients showed in every case the presence of a bacillus in very small numbers. This bacillus is pathogenic for rabbits, guinea-pigs, and white mice, but though pathogenic in these animals the effect which it produces upon them is not one contributing material evidence in favor of its etiological relationship to typhus fever. Indeed this is what might be expected, since, so far as we know, these animals are not subject to the disease. The fact of finding a new species of bacillus in the blood of six consecutive patients, with uncomplicated typhus fever, in the height of the disease, seems significant, and is suggestive of an etiological relationship of the bacillus found to the disease.

This relationship cannot be determined by a single limited research. The proof must be furnished by an accumulation of evidence, either along lines such as have been pursued in this investigation, or in directions which may present themselves as our knowledge increases.

T. M. C.

LATIN AND GREEK FOR STUDENTS WHO CANNOT PURSUE A COLLEGIATE COURSE.[1]

By E. L. HOLMES, M.D.,

CHICAGO, ILL.

INCOMPLETE is a discussion of this subject (preliminary education) that does not include a consideration of the great value of an elementary knowledge of Latin and Greek.

I disclaim any attempt to prove that devotion to these languages for the purpose of reading their literature is requisite or even desirable as a preparation for the study of medicine. The field of modern literature and of modern science has become so vast and important that the average student will find neither time nor relative profit in the endeavor to master the ancient classics.

I do, however, earnestly advocate the study of the rudiments—I mean simply the rudiments of Latin and Greek—as the most valuable labor-saving instrument in acquiring an English, a scientific, and a medical education.

I ask indulgence, if I dwell somewhat at length on this portion of my subject, for I think we are in danger of losing sight of the many and great benefits which every true student will receive from a judicious study of some things in these living dead languages.

Consider for a moment the vast array of technical terms and of common English words in our general and our scientific literature, which are almost pure Latin and Greek words.

Look at this remarkable series of paradoxes! A young man may never have learned a single word of Latin or Greek, and yet under ordinary circumstances he has learned, by hearing and reading English, several hundred Latin and Greek words; if he is especially intelligent, at least three thousand of them. When he receives his degree of Doctor of Medicine, he has learned by the most painful toil several hundred technical terms taken from these languages, and still does not know a single word of Latin or Greek.

He can count in Latin and Greek, and yet is in blissful ignorance of his knowledge, for he could not give on demand a single numeral of these languages. He already knows the names of several colors, of several of the elements, and yet cannot tell one of them. He knows the Latin and Greek names of every member of the body, of every organ, tissue, fibre, and fluid, and of all their diseases, of all the senses and functions, and the words to express measuring, writing, and describing. If he were asked to give the Latin and Greek synonyms for any one of them, he could not give it.

The medical student who enters upon the study of his profession in total ignorance of Latin and Greek expends a large portion of his time and energies in painful and almost fruitless attempts to acquire a knowledge of technical terms. It is doubtful whether the average student of this class ever in his life clearly comprehends our best medical literature.

The Latin Grammar which I would propose, should contain scarcely more than forty pages of declensions and conjugations, with only a very few rules. The Reader should comprise at least a hundred and fifty pages of pure, even elegant, Latin from classic prose and from poetry. Both the Grammar and the Reader, save perhaps fifty connections and other important words, should contain no words which are not good English words, with possibly a slight change of letters or syllables.

We will present a few examples:

"Labor omnia vincit;" "Poeta nascitur non fit;" "Homo sum, humani nihil a me alienum puto;" "Pallida mors æquo pulsat pede pauperum taburnas regumque turres."

"Facilis descensus Averno:
Noctes atque dies patit atri Janua Ditis.
Sed revocare gradum superasque evadere ad auras,
Hoc opus, Hic labor est."

Literæ "adulescentiam alunt, senectutem oblectant, secundas res ornant, adversis perfugium ac solatium præbent, delectant domi, non impediunt foris, pernoctant nobiscum, peregrinantur, rusticantur."

As the multiplication-table must be committed to memory before the child can progress in arithmetic, so the few pages of declensions and conjugations must be memorized carefully, that the beginner may become perfectly familiar with Latin terminations. With this preliminary exercise the scholar will find no perplexities, and will easily read the sentences in the reader.

In the vocabulary at the end of the Reader, every principal word should have all the cognate words arranged alphabetically with it. With the definition of each Latin word should be presented all English words derived from it.

I would lay stress on the value of memorizing, by easy tasks, the classic sentences I have just described.

The same plan should be pursued in teaching the elements of Greek. Thirty pages of grammar, each word of which, with a few exceptions, should be an English word, would suffice.

There would be some difficulty in filling a Greek Reader with gems of Greek literature which would also be English. A competent Greek scholar, however, with the aid of fifty connectives and other important words not English, could compile a few such sentences and paraphrase others. He could arrange a simple narrative of facts from history, geography, biography, and mythology, in which the several hundred Greek words in our language could be formed into quite long sentences and convey much useful knowledge.

Pardon me for reading a dry list of familiar syllables to call to your minds a multitude of Greek-English words, which properly arranged, would fill many pages of instructive reading—gram, graph, logue, meter, asm, scope, sis; words commencing with a or an, dia, kata, para, apo, hypo, hyper, hydro, phos, sym or syn, phil, peri, tech, tel; and words in which the following are important syllables: hepat, soma, stoma, ptoma, tomy, pneuma, deme, crat, arch, bion, phon, tone, and sark.

There is great need of such elementary text-books for the use of professional students, the preparation of which is worthy of the attention of any ingenious and thorough Greek scholar. As far as I know, those which have heretofore been compiled are not provided with vocabularies sufficient for the use of students. The space devoted to grammatical forms is also inadequate. Moreover the quotations and other sentences in the readers are not selected on account of beauty of thought and elegance of expression as suitable for memorizing. Furthermore, they do not seem to be selected for the useful information they convey.

The above method presents a short course in the study of Latin and Greek which is exceedingly easy. It utilizes the material already in the possession of the pupil and does not lead him into a bewildering, almost limitless, field of a totally unknown vocabulary and of strange idioms. It is suited to the needs of all students of these languages. Those who will prepare for college can finish this course and pass to a higher. Those who will devote but one or two years to this study can easily master the fundamental principles of the grammar and of construction, and acquire a far greater practical knowledge of Latin, Greek, and even English, than in a much longer time by the methods usually pursued in our high-schools.

Finally, this plan will not conflict with any "method" which a teacher may pursue.

After this study of English Latin and Greek, the student can understand without difficulty the technical terms of every science in every modern language. He is also able to trace the derivation and meaning of new terms which constantly appear in every department of science. He possesses the key by which he can acquire two modern languages in the time otherwise required for one. He enjoys a deeper insight into the spirit of all literature.

[1] From a recent doctorate address in Rush Medical College, Chicago.

He has a systematic knowledge of sufficient Latin and Greek to enable him to continue alone the reading of the classics, if he has the time and taste so to do. He has increased and perfected the vocabulary of his own language, which in very great degree is a measure of mental development and which possesses an intrinsic value almost beyond estimation.

Therapeutic Hints.

Treatment of Lupus Erythematosus of the Eyelids and Face.—Brocq (*British Journal of Dermatology*, 1891) recommends in this disease:

℞. Salicylic acid..... 3 ss.
Lactic acid..... 3 ss.
Resorcin..... gr. xlv.
Zinc oxide..... 3 ij.
Vaselin..... 3 xvij.

The following is also usually well borne:

℞. Salicylic acid..... 1 part.
Pyrogallol..... 2 parts.
Vaselin..... 20 parts.

This is to be rubbed in at night. During the day the first named may be applied, the two being thus used conjointly.

Gastralgia in the Gouty. — Dr. Dujardin-Beaumetz has had good success in relieving the gastric pain associated with the uric acid diathesis by means of chloroform water given according to the following formula:

℞. Chloroform water..... ℥ ij.
Syrup of orange..... ℥ j.
Simple syrup..... ℥ j.

Sig.: A dessertspoonful every fifteen minutes until the pain is relieved.

Butyl-Chloral for Facial Neuralgia.—Butyl-chloral has been proved to have an especial action on the facial or trigeminal nerve. Given internally in doses of from one to three grains, it has a marked effect in relieving painful neuralgias of this nerve. Professor Liebreich, of Berlin, prescribes it as follows:

℞. Butyl-chloral..... gr. xl. to lxxv.
Alcohol. rect..... f ʒ ijss.
Glycerini..... f ʒ v.
Aquæ dest.....q. s. ad f ℥ iv.

Misce. Signa: From two to four teaspoonfuls p. r. n.

—*The Physician and Surgeon.*

Injections for Chronic Cystitis. — Ultzmann recommends the following prescriptions in the treatment of this troublesome condition:

Crystallized carbolic acid..... gr. xv.
Distilled water..... ℥ iijss.

Dissolve, and mix with equal parts of hot water at the moment that the liquid is to be injected.

Or the following:

Boric acid..... ℥ ss.
Glycerin..... ℥ j.
Distilled water..... ℥ x.

Make a solution, and mix with equal parts of warm water at the moment of employment.

—*Buffalo Medical and Surgical Journal.*

Treatment of the Malarial Cachexia.—In a case of a man twenty-five years of age, with the malarial cachexia, Professor Da Costa prescribed the following:

℞. Liquor. arsenici chloridi..... ... gtt. v.
Tinct. ferri chloridi..... gtt. xx.
Elixir,
Aquæ.....ãã q. s. ad f ʒ j.

M. To be taken three times a day, after meals.

Also, for the first four days, give quinine, gr. viij., in the morning on an empty stomach, and repeat the dose in the evening. Then continue by giving gr. viij. in the morning only; the quinine to be given in capsules or in powder.—*College and Clinical Record*

Soap in the Treatment of Affections of the Lid Margins.—Wolffberg (*Centrallblatt für Praktische Augenheilkunde*) advocates, from the hygienic standpoint, the use of a neutral fluid soap as a means of washing the borders of the lids. The ciliary margins are thus freed from the milder types of the affections to which they are subject, and are protected against severe sequelæ.

Influenza.—Dr. Devereux recommends the following in the treatment of influenza attended with mental and physical depression:

℞. Spirits of camphor,
Compound tincture of lavender..... ãã ʒ ij.
Spirits of chloroform..... ʒ j.
Mucilage of tragacanth..... ℥ j.
Distilled water..... ℥ iij.

M. Sig.: Tablespoonful every four hours.

Tritopine is the name of a new alkaloid obtained from the mother liquor after the separation of morphine. It has the formula $C_{24}H_{41}N_3O_7$, and occurs in the form of prisms or scales, soluble in chloroform, but sparingly so in ether. It occurs in very small proportion in opium.

Acute Coryza.—Dr. Capitan recommends the following snuff to be used every hour for the relief of acute nasal catarrh:

Salol..... 3 ss.
Salicylic acid..... gr. vj.
Tannin..... gr. iij.
Boric acid..... 3 ij.

The use of this powder should not be continued for more than a few hours as it is apt to excite a slight eczematous eruption along the edges of the nostrils. The following is another formula, less active yet said to have given good results.

Powdered talc..... 3 j.
Antipyrin..... gr. xv.
Boric acid..... 3 ss.
Salicylic acid..... gr. iv.

This may be snuffed freely, as it causes no irritation of the alæ nasi as does the preceding.—*Journal de Médecine et de Chirurgie Pratiques.*

Diuretin has been used by Hare (*Therap. Gaz.*, March, 1892) in four cases without very encouraging results. Two were of mitral disease with dropsy, one of general anasarca, and one of enlarged prostate in an old man with highly concentrated urine. Here as much as one hundred and twenty grains daily were given, and instead of causing an increase in the urine the quantity appeared rather to be decreased by the drug.

Alopecia Areata has been successfully treated by Dr. Moty (*Rev. Chir. e Terap.*, No. 10, 1891), by subcutaneous injections of corrosive sublimate, in from two to five per cent. solution, so as to surround the bald spot; five or six drops being injected at a time. It is said that the injections produce neither pain, nodules, nor other disagreeable symptoms, and are much more efficacious than other plans of treatment.

Impotence, according to Gywrkovecky, may be cured in its varied forms by hypnotic suggestion, which he has also found a very useful means of treatment in masturbation, nocturnal pollutions, etc. In three cases of sexual neurasthenia he has had complete success from suspension in the Sayre apparatus.—*Wiener Med. Presse*, No. 46, 1891.

Hepatic Colic with vomiting is treated by Lemoine with a teaspoonful of the following every fifteen minutes:

℞. Chloroform,
Tinct. myrrh.....ãã ♏ xv.
Mucil. acac..... f ʒ ij.
Syrupi..... f ℥ iijss.

Prophylaxis of Diphtheria is best secured for those about the patient by disinfection of the mouth, pharynx, and nose. Dr. D'Espine thinks one of the best disinfect-

ants for this purpose consists in repeated irrigation with a solution of salicylic acid, two to a thousand. This belief is founded on experiments as to the bactericidal properties of salicylic acid in this disease. It has the advantage of being harmless.

Progress of Medical Science.

Aneurism of the Carotid.—Dr. Karewski (*Berlin. klin. Wochen.*, No. 37, 1891), writing upon the diagnosis and therapy of spontaneous aneurism of the common carotid, relates the case of a man of thirty who had had syphilis seven years before. A tumor suddenly appeared on the right side of the neck, attended with pain, difficulty in swallowing and in speech. A soft tumor was made out, compressible, not pulsating, free from souffle and thrill, extending between the hyoid bone and the sterno mastoid on one side, and the supraclavicular fossa and the mastoid apophysis on the other. Exploratory puncture gave issue to discolored blood. The diagnosis rested between aneurism and hematic cyst. The tumor was cut down upon, the primitive carotid denuded and ligatured as well as the internal and external carotids, and the sac resected. There was no paralysis or cerebral anæmia, and the patient was well in fifteen days. The author insists on the diagnostic value of the compressibility of the tumor, which permits one to avoid confounding it with abscess. Treatment should consist in extirpation of the sac, the more so since with antisepsis the mortality has fallen to twenty per cent.

Toxic Symptoms after Ichthyol.—Dr. Bergerio (*Gaz. d. Osp.*, February, 1892), after washing out the uterus, which had been curetted, with a solution of ichthyol in glycerine one to three, saw symptoms of general depression in his patient, which lasted for twelve hours, attended with pulse such as seen in tachycardia. The writer had used ichthyol in a hundred previous uterine cases without accident.

Abscesses in Pott's Disease—Dr. Burrell believes the following conclusions are warranted: 1. That efficient mechanical support of the spine is the prime factor in the treatment of caries of the spine associated with an abscess. 2. That under an expectant plan of treatment the abscess will, in many cases, disappear. 3. That the indication for operative interference is a steady or rapid decline in the patient's general condition. 4. That the operation should consist in thorough evacuation of the abscess, and the establishment of drainage from as near the seat of the disease as is practicable.—*Archives of Pediatrics*, May, 1892.

Exophthalmos in an Infant.—Dr. Philipsen (*Annal d'Oculist*, December, 1891) saw an infant of ten days with a pronounced displacement of the right eye forward and downward. It had been noticed two days after birth. A smooth, rounded tumor could be made out within the orbit, fluctuating, and painless on pressure. Without treatment this disappeared gradually and the eye regained its natural place, and three months later showed no signs. The diagnosis was cephalæmatoma, developed either between the periosteum and the orbital vault and between the dura mater and the vault, and having penetrated into the orbit by a congenital communication.

Gall-stone Fever.—The fever and chills attending the passage of gall-stones has at times so closely simulated intermittent fever that very early writers on the subject called attention to this condition. Dr. Schmitz brings up the question again (*Berlin. klin. Wochens.*, No. 37, 1891). He has found colic and jaundice in most cases, and when the former was about to begin there has been present distention and tenseness of the abdomen, and the pain has coincided with the rigor. Very rarely colic came first and fever appeared while it was still present. From fifteen to twenty-four hours after the fever, jaundice appears. The temperature may reach 105° F. or more, but usually not over 103.5° to 104.5° F. are noted. As a differential point from malaria, if the patient goes to sleep he awakens with mental confusion, headache, malaise, and weariness, and may even remain in a dazed condition for some time. If gall stones are not found in the dejections, if colic is absent, and jaundice alone is present, or even when this sign too is wanting, the existence of gall-stone disease may be looked upon as probable if, before the rigor, tympanites can be made out, and if, after the attack, a soporific state comes on.

Whipping in the Treatment of Hysteria.—Dr. O. Wiederhold, a director of the private sanatorium at Wilhelmshöhe, near Cassel, has just been sentenced to three months' imprisonment for administering a whipping to one of his patients. It appears that the wife of a gentleman occupying a high official position in Dresden entered Dr. Wiederhold's establishment suffering from marked hysteria. She was a very refractory patient, and gave great trouble by her habit of screaming for hours continuously when anything annoyed her. Dr. Wiederhold admitted that he had on several occasions beaten her with a thin stick, and that, one morning when she was in bed, he had lifted her nightgown and given her several cuts with a riding-whip across the body. Professor Uiczek, of Marburg, and Dr. Pellmann, director of the lunatic asylum at Bonn, were called as experts, and agreed in condemning corporal punishment such as that described as a therapeutic aid in nervous diseases.

A Slur on the Medical Profession of Chicago.—The *British Medical Journal* says: "Slow going Europe was much amused at the characteristic official method employed at Chicago to meet the unpleasant effect produced by the publication of the figures representing the epidemic and endemic prevalence of typhoid fever in that city, and the extensive pollution of the lake water with which the city is served. There were 2,000 deaths reported from typhoid fever in 1891, and 311 deaths from typhoid in January of the present year. There was also evidence that the sewage of a city of some one hundred and eighty thousand persons passes directly into the lake, and that further pollution is brought about by means of the Chicago River, which communicates with the Mississippi as well as Lake Michigan. The simple reply made to this was that the doctors did not know how to diagnose typhoid fever, and that probably not more than four hundred out of four thousand cases so recorded were correctly entered. We have been waiting with amused wonder for the response of the maligned medical faculty to this serio-comic retort, which would only be regarded as a bad and foolish joke in any other civilized city, whether of Europe or America. Meantime, it is instructive to note that instead of giving solidity or confirmation to the promise held out by Mr. MacCormach, the Commissioner in Great Britain, that the sources of water supply would be, in good time before the Exhibition, carried two miles further out into the lake, the *mot d'ordre* appears to be to give this significant hint to the doctors that for the future they had better register what they have been in the habit of recognizing as typhoid fever under some other name. This will not, however, diminish the mortality, nor will it add to the confidence with which future and, perhaps, more reassuring returns will be regarded by intending visitors to the Columbian Exposition."

Medical Examinations Before Marriage.—It is said that there is a law in Brazil compelling prospective brides and grooms to submit to a medical examination as a preliminary to a legal marriage. Such a law is theoretically excellent as a means to stamp out hereditary tendencies to disease and to prevent the transmission of certain maladies, like syphilis, to the offspring. But practically we fear love laughs at doctors just as well as at locksmiths.

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A MODEL TO IMITATE.

THERE are a great many peculiarities reported of men of genius. Sir Isaac Newton was a vegetarian; General "Stonewall" Jackson thought one side of his body was heavier than the other, and always carried a weight in his pocket; Schopenhauer played the guitar; Erasmus would not eat fish, and Dr. Johnson never took a walk without touching the lamp-posts. But we learn that the peculiarity of Mr. Gladstone's greatness is more curious and subtle than that of any of his predecessors. Every bolus of food which he takes is chewed thirty-two times! Why thirty-two instead of thirty-nine, which is the number of the Articles, or thirty, which is the number of the days of the month, or some other number which has a specific significance, has not been explained. Perhaps some time the Grand Old Man will leave his Homeric and Celtic studies for an elucidation of these more serious problems.

We are, however, not disposed to quarrel with thirty-two. It is a good number, and one which ought to secure thoroughly pultaceous mastication, and a completely saturated insalivation, besides exercising the masseters, temporals, external and internal pterygoids, and securing time for a pleasing gratification of the sense of taste.

There are a great many things making up the admirable character of Mr. Gladstone which cannot be imitated, however desirable that might be. But his two-and-thirty method of mastication can be followed, and would have important influences upon the health and happiness of Americans, if it were done. Dyspepsia, biliousness, headaches, neurasthenia, insanity, and bad temper would decrease, and perhaps disappear. We commend the method of operation upon the food bolus adopted by Mr. Gladstone. If humanity imitates it we can truly say: *Exegi monumentum ære perennius*, no matter what becomes of the Irish.

THE CIRCULATION IN THE VERTEBRAL ARTERIES.

THE effect of ligating the carotids and the vertebral arteries was first studied by Sir Astley Cooper. He found that the carotids could be ligated without killing the animal if the operations were not done simultaneously. Ligation of both vertebrals was attended with more serious symptoms of cardiac and respiratory disturbance; subsequent experiments have shown that only with great care is it possible to ligate both vertebrals without causing death. It has been learned that the vertebrals preside over the cardiac and pulmonary functions, and that in addition their obstruction may lead to glycosuria and paralysis of the upper limbs. Girandeau and Hallopeau had a patient with an aneurism of the basilar artery. Every time he bent down his head his respiration was stopped and his heart was slowed.

This was a clinical demonstration of the effect of compression on the arterial supply of the vertebrals.

Dr. Dewèvre in the *Revue de Medecine*, May, 1892, contributes some new studies regarding the articulation of the vertebrals. Perhaps the most interesting point which he establishes is that regarding the relation of the carotids and the vertebral blood currents. These are, in a large measure, independent, yet have a reciprocal influence. The carotid arteries supply the cerebral hemispheres, the vertebrals the pons and medulla; one has to do with psychical and the other with somatic life; one may live without carotids but not without vertebrals.

Compression on the carotid causes an increase in the strength and tension of the vertebral blood-current. In the hippopotamus, as Gratiolet showed, the hyoid bone is so arranged that by muscular contraction it compresses the carotids, the vertebrals dilate, and the medulla and pons are flooded with blood. Other amphibious animals have a somewhat similar arrangement, enabling them to continue a long time under water without breathing. In man, when a vigorous heart-action drives an excessive amount of blood to the head, the thyroid gland dilates and presses on the carotid; this lessens the cerebral hyperæmia, but, if anything, invigorates the bulbar circulation. Another fact upon which Dr. Dewèvre insists is that it is very difficult to produce an anæmia of the bulbar circulation, or in any way to lessen its strength. It is this tenacity of the vertebral circulation which preserves the vitality of the bulb in persons who have been submerged for a long time. On the other hand, the bony canal, through which the vertebrals pass, mechanically prevents an excessive vascular dilatation, and explains he thinks, the rarity of aneurisms and hemorrhages in this vascular area.

The theory that any form of epilepsy is due to spasm of the bulbar arteries is certainly weakened if Dewèvre's statements are true. And it must henceforth be borne in mind that carotid compression, while limiting the flow of blood to the cerebrum, increases the flow to the medulla.

ACUTE RHEUMATISM.

THERE is at least one thing about which doctors agree, and that is, the drug which acts most surely in acute rheumatism. Dr. M. Baudouin has made a tour of the Paris hospitals and finds that all the physicians use salicylate of soda. Some give also bicarbonate of soda and antipyrin; but salicylate is the sheet-anchor. The mode of administration differs, however. Dujardin Beaumetz gives 15 grains every three hours; Talamon, the same amount every two hours; Straus gives 45 to 60 grains in single doses twice daily; Bouchard, 75 grains of the salicylate and 150 grains of the bicarbonate of soda daily. Barth, in some cases gives quinine and antipyrin, while Chauffard uses antipyrin alone, giving 60 to 120 grains

daily. Barié gives 30 grains three times a day, and Comby 15 grains every two hours.

In the New York hospitals larger doses than the above are often given. In Bellevue, 20 grains every two hours, for the first day, is usually prescribed. In St. Luke's, oil of wintergreen has been much used. Salol has been given also instead of the salicylate. Nothing has yet approached the salicylates in efficacy in the treatment of acute rheumatism. It is generally the septic and gonorrhœal cases only in which it fails. But there is still a wide divergence of opinion as to how to administer the drug so as to get its effects *cito, tuto, et jucunde.*

THE BISHOP AUTOPSY FARCE.

Our friend District-Attorney Nicoll has so thoroughly impressed the profession with his loyalty to scientific medicine that we are somewhat surprised to learn that the ridiculous charges in the Bishop case are still unsettled. Our readers will recollect that months ago there was a great hue and cry against Drs. Irwin, Ferguson, and Hance, of this city, for making an autopsy upon the body of Bishop while he was in a supposed trance. The accounts of the affair bristled with blood-creeping headlines of butchery by doctors, murder on the post-mortem table, and other equally complimentary reflections upon scientific motives, resulting in the indictment of the doctors by the grand jury and subsequent trial. It was then proved that the charge of dissection before death was an absurdity, and it was believed that the matter was settled. Now, however, a technical charge is made to the effect that the autopsy was made without due permission. As the patient himself requested it in the presence of witnesses, we are at a loss to understand what the legal interpretation of proper permission may mean. But law and justice are not always synonymous terms.

A FOUR YEARS' COMPULSORY COURSE.

The Harvard Medical School begins its Fall session by adopting a compulsory four years' course. Students in classical and scientical schools in which courses in anatomy, physiology, histology, and chemistry are taught can be admitted to advanced standing on passing an examination. This will virtually shorten the course to graduates of classical colleges, which is as it should be. The Harvard School deserves great credit for having the courage to take this step, and we trust it will be rewarded in the students it secures, and the reputation which the thoroughness of its training must bring.

Still, Medical Colleges who adopt the four years' course ought to exempt students which at the end of the third year secure hospital appointments, and this we believe is practically done at Harvard.

The Lamb and Syphilis.—An Italian physician is treating secondary syphilis by intra-muscular injections of lamb's serum, and reports good results therefrom. Why he has selected a lamb as the particular animal from which to obtain the serum is not apparent, unless it is that the lamb has always been regarded as the symbol of purity, and by extracting its virtue he hopes to counteract the effects of vice.—*Doctor's Weekly.*

News of the Week.

Woman's Medical College of the New York Infirmary.—Dr. William Oliver Moore has resigned from the Chair of Ophthalmology and Otology.

The Death of Dr. William R. Birdsall.—At a meeting of the Medical Board of the Manhattan Eye and Ear Hospital, held on June 10th, the following resolutions were adopted:

Whereas, It has pleased Almighty God to remove from our number Dr. William R. Birdsall, one of the physicians to this Hospital;

Resolved, That in bowing to His will we desire to express our esteem and love for Dr. Birdsall as our colleague and friend, and our sense of the loss sustained by the Hospital in the removal of one of our most faithful and efficient workers, who has made valuable contributions to the science of medicine;

Resolved, That the sincere sympathy of the Board be extended to his family in their deep affliction;

Resolved, That the Board in a body attend his funeral;

Resolved, That these resolutions be spread on the minutes of the Board, and be published in the Medical Record and the New York *Medical Journal*.—D. B. St. John Roosa, M.D., *President;* Charles H. Knight, M.D., *Secretary.*

Cholera is prevailing in Persia to an alarming extent.

The Late Dr. D. Hayes Agnew left an estate of about $250,000. He bequeaths to the University of Pennsylvania, $50,000, his work on surgery, his library and anatomical collections.

Dr. Theodore Meynert, Professor of Nervous and Mental Diseases in the University of Vienna, died on May 30, aged fifty-nine years. Professor Meynert was one of the most eminent anatomists and alienists of modern times. His contributions to the anatomy of the nervous system were numerous and original, and gave a great impetus to investigations in this line. He wrote a treatise on the anatomy and diseases of the fore-brain which embodies many of his researches.

The Medical Profession in Japan.—From statistics recently communicated to the Comité d'Hygiène Publique by Professor Proust, we learn that that go-ahead country Japan boasts 38,620 practitioners of medicine. This, with a population of 40,000,000, gives one professor of the healing art to 1,035 inhabitants. Unfortunately, 29,105 of these gentlemen are not provided with a diploma, and of the others many possess qualifications which would hardly command confidence in European countries.

The Spanish-American Medical Congress.—The four hundredth anniversary of the discovery of America by Columbus is to be celebrated in Spain next autumn, with much pomp and circumstance. The medical profession proposes to do honor to the occasion in its own way by holding a congress, in which it is expected that the whole Spanish-speaking profession will be represented. The Organizing Committee, in their circular of invitation, point out that Pablo Toscanelli, a Florentine physician, had much influence in inducing Columbus to embark on his memorable voyage, and Garcia Hernández, Physician to

Philip the Second, was consulted by the Spanish Court as to the feasibility of the explorer's plans. The labors of Juan the Second's physicians, Rodrigo and José, who were two of the most eminent geographers of the time, had smoothed the way for Columbus's enterprise. Two medical men, a physician and a surgeon, shared the dangers of his first voyage, and Chanca, who sailed with him in the second, made a study of the flora and fauna as well as of the diseases of the New World. Garcia Hernández himself commanded the scientific expedition organized by Philip the Second, and brought back a large quantity of observations, most of which seem to have been stowed away in official pigeon-holes at Rome, and forgotten. The Hispano-American Congress will be held at Madrid in October next. The official language will be Spanish, but communications in English, French, Portuguese, and Italian will also be received. The work of the Congress will be carried out in five sections—History, Hygiene, Medicine, Surgery, and Pharmacology and Therapeutics. Among the subjects proposed for discussion in the Section of History are the following: The influence of certain physicians, antecedent to or contemporary with Columbus, on the discovery of America; popular medicine in America; had the discovery of America any importance in the epidemic development of syphilis in Europe? In the Section of Hygiene food for discussion will be found in such questions as yellow fever, the acclimatization of Europeans in America, precautions to be taken against malaria in hot countries, the domestic animals introduced by the Spaniards into America, and their influence on public health, etc. In the Section of Medicine the most promising topics are the comparative study of alcoholism in Europe and America, the neuroses which find specially favorable conditions for their development in America, animal and vegetable parasites of America in their relation to diseases of men and animals, the pathological predominance of the lymphatic glandular system in hot climates and the causes which produce it, etc. In the Section of Surgery there will be a debate on modifications in the course and in the treatment of syphilis, both in Europeans and in Americans, consequent on sudden changes from one continent to the other; the treatment of wounds, and the conduct of operations in America, especially in the tropical zone, will also be discussed. In the Section of Pharmacy and Therapeutics the programme of discussion includes the treatment of yellow fever, the therapeutic value of quinine, the differences in the treatment of malaria in Europe and America, and the improvements in pharmacology which have followed the discovery of America. Communications intended for presentation to the Congress should be sent to the General Secretary, Dr. D. Sinforiano Garán Mansilla, Magdalena 19, *Segundo, izquierda*, Madrid.—*British Medical Journal.*

The Reflex Club meets in Sacramento, Cal., and publishes acrimonious but instructive proceedings in the *Occidental Medical Times*. The club is at present at work over headaches, which Professor Fallopius, and Drs. Strabismus, Causticus, and Rectus, each claims as his own.

Medical Education of Women in Russia.—The Russian Imperial Council has by a large majority decided on the establishment of a Medical Institute for Women in St. Petersburg. The Municipal Council will contribute £16,000 for the purpose, the Ministry of Public Instruction, £7,000, the Ministry of War, £8,450, and the Society for the Maintenance of Medical and Pedagogic Instruction, £250. The municipal authorities will, besides, give the site both for the school and for the clinics in connection with it.

A Medical Princess.—A Myingoondine princess, granddaughter of the late Mindoon Min, King Theebaw's predecessor, is studying medicine at the Rangoon Hospital, with the view of qualifying herself to practise among her Burmese fellow-countrywomen. The princess, with other members of King Mindoon Min's family, was rescued from captivity by the British occupation of Burmah in 1885.

Reichmann's Disease.—Mathieu (*Arch. Gén. de Méd.*, May, 1892) relates the following case of permanent gastric hypersecretion followed by ulcer. A man, aged forty-two, dated his dyspeptic troubles from a reverse of fortune due to the Russo-Turkish war. He suffered from attacks of pain, typical of gastric hypersecretion, commencing about a couple of hours after food, and increasing for another two or three hours. The pain was often relieved by taking a little food, either solid or liquid. Sometimes vomiting put an end to the attack (see also "Epitome," March 5, 1892, par. 199). Four years ago he was much benefited by washing out the stomach. On admission there was marked gastric dilatation. The gastric juice contained an excess of hydrochloric acid. He was much improved by treatment, and was thinking of leaving the hospital, when he was seized one evening with pain in the epigastrium. He died in two days' time of collapse. At the necropsy the stomach was much dilated and placed almost vertically, so that the greater curvature lay in great measure in the left mammary line, the lower part of the stomach near the pylorus being greatly distended, whereas the pylorus itself was nearly in the usual position. On the anterior surface, about two centimetres from the pylorus, there was a perforation big enough to admit the tip of the index finger. It had obviously been there some time. There was some general peritonitis, but apparently none of the contents of the stomach had extravasated, owing to the position of the perforation. Sections from the cardia showed that the coats of the stomach were thickened and the glands hypertrophied. In the region of the dilatation, near the pylorus, the changes in the mucosa were more marked. There was round-celled infiltration and the glands were dilated and cystic. In all cases of permanent hypersecretion there is gastric dilatation. It is evident that hypersecretion is compatible with a considerable degree of gastritis. The parts least affected secrete the gastric juice; those most diseased are digested. The round ulcer is one of the dangers of gastric hypersecretion, and for this reason passing the tube and washing out the stomach must be used prudently.—*British Medical Journal.*

The Society of the Alumni of Bellevue Hospital.—The following are the officers for the ensuing year: *President*, W. R. Townsend; *Vice-President*, Frederick H. Wiggin; *Secretary*, William N. Hubbard; *Treasurer*, Robert J. Carlisle.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CHANGES IN THE BLOOD IN THE COURSE OF RHEUMATIC ATTACKS—THE DIFFERENCES BETWEEN RHEUMATIC ARTHRITIS AND RHEUMATOID ARTHRITIS—TWO NEW MEDICAL KNIGHTS—A STRANGE LAW CASE—THE LONDON COUNTY COUNCIL AND FEES AT INQUESTS.

LONDON, May 28, 1892.

RHEUMATISM and rheumatic arthritis occupied the attention of the Medical and Chirurgical Society at its last meeting. A further communication on "The Changes in the Blood in the Course of Rheumatic Attacks" was brought forward by Dr A. E. Garrod (a son of Sir Alfred Garrod). The author gave an account of his observations on the variations in the number of white corpuscles and the character of the fibrin network in simple slide preparations of the blood. He agreed with M. Hayem that in acute rheumatism there was a distinct increase of white corpuscles—though never any extreme degree of leucocytosis. The highest number of white corpuscles observed was about twenty thousand per cubic millimetre. According to recent observers the average number in healthy blood was between six thousand and seven thousand. The increase of white corpuscles was found to bear a close relation to the amount of febrile disturbance. The increase was only trifling in amount in subacute cases and where there were conspicuous local manifestations without any marked rise of temperature. The increase of white corpuscles was rapid and took place at an early stage of the attack. When a relapse occurred a fresh increase of leucocytes was observed. The fall during convalesence might be either rapid or gradual. The number of blood platelets was usually increased during the period of convalesence. No noteworthy changes in the form or size of the red corpuscles was observed. Dr. Garrod disagreed with M. Hayem as to the value of the coarseness of the fibrin network in simple slide preparations of the blood of rheumatic patients as a diagnostic sign, and thought that it could only be of service as such in a limited number of cases. The counting of the white corpuscles was done with a Thoma-Zeiss hæmacytometer with a special pipette diluting only ten or twenty times. A 0.03 per cent. solution of acetic acid was employed for the dilution. In each observation fifty microscopic fields of known area were counted, the total area corresponding to 490.8 squares of Gower's hæmacytometer.

Dr. William Hunter referred to the importance of calculating the percentage of white to red corpuscles, as well as giving the absolute number of the former per cubic millimetre of the blood in rheumatic fever, as, in this disease, the diaphoresis must affect the concentration of the blood very considerably. The increase in leucocytes opened up an interesting speculation as to whether rheumatic fever was an infective disease, using that term in its widest sense. In all the infective diseases an increase of leucocytes was a very distinct feature, and was roughly proportional to the severity of the disease.

Dr. Habershon said he could confirm Dr. Garrod's observations as to the increase in leucocytes. The cause of such increase was still undiscovered. He had himself shown that the leucocytes were enormously increased in number during diabetic coma; other conditions, such as the introduction of alkaline carbonates and toxins into the blood, also increased the number considerably.

A communication on "Rheumatoid Arthritis and Rheumatic Arthritis," by Mr. Hugh Lane, of Bath, was then read. Mr. Lane reiterated his former conclusions, viz., that chronic rheumatic arthritis was an arthritis of rheumatic origin, while chronic rheumatoid arthritis was a constitutional disease of debility, invariably having a history of either phthisis or gout, or both. In rheumatic arthritis the existence of rheumatism was revealed by subacute attacks, and to these attacks the subsequent distinctive deformities were due. Rheumatic arthritis exhibited no marked neurosis, had no relation to osteo arthritis, was more confined to the joints, and was more a local than a constitutional disease; the heart was often affected; the reflexes were increased—especially late in the disease; muscular atrophy, if present, was a late symptom; the joints exhibited typical deformity, with no effusion, but presented the appearance of a solid enlargement of the joint area. Rheumatoid arthritis, on the other hand, was a constitutional disease with many neuroses; a peculiar anæmia and muscular atrophy were early and constant symptoms; reflexes were normal or diminished; the pulse was rapid and hard; and the joint areas presented typical fusiform swellings which develop later into the mushroom-shaped condition of osteo-arthritis. Mr. Lane said his later researches had confirmed his opinion as to these distinctions, and treatment had accentuated their importance. The manner of onset differed in the two diseases. Climate exerted more influence in rheumatic than in rheumatoid arthritis. The anæmia was more marked in the latter. All might suffer from rheumatoid arthritis, but in rheumatic arthritis the young seldom suffered and the rich claimed more exemption. Migraine, perverted taste, deafness, and other symptoms went a long way, in Mr. Lane's opinion, in establishing chronic rheumatoid arthritis as a disease separate from chronic rheumatic arthritis.

Sir Alfred Garrod said it was now thirty-two years since he had shown that there was a large class of cases which owed their origin to neither gout nor true rheumatism. There was no uric acid in the blood, but the joints were injured from the very earliest stage by ulceration of the cartilages, leading to absorption. Any debilitating affection—even mental depression—appeared to be an efficient cause. He still believed that acute rheumatism could start an attack.

Dr. Ord said he had arrived at different conclusions—perhaps because he approached the subject from a different point of view. He thought the term chronic rheumatic arthritis could be well applied to a limited number of cases in which chronic arthritis followed on acute rheumatism; such cases occurred in people rather under than over forty. There might be bony outgrowths around the joint without much change in the synovial membrane, and there was a tendency toward fibrous anchylosis. Rheumatic relapses were not common. The wasting of the muscles was usually out of proportion to the disease of the joints, and was the work of trophic nerves, to which also the joint disease was due. In several cases he had found central nervous changes in the anterior cornua of the cord. In many cases of progressive osteo-arthritis the inflammatory exacerbations were due to such different conditions as exposure to cold, emotional disturbances, and the menstrual periods. He had noticed symmetrical enlargements of the distal articulations during the menstrual periods, which partly subsided in the intervals. It was easy to conceive that the uterine hyperæmia disturbed the circulation in the cord, with consequent reflex irritation of the joints. It was important to assume as little as possible, and he thought "chronic osteo arthritis" was a better term than "rheumatic arthritis."

Mr. Lane then replied. In answer to a question from Sir Andrew Clark as to whether, in cases where struma had been present, he had ever found tubercle bacilli, he said the connection between rheumatoid arthritis and struma was not a direct one, but rather that the subject of it came of a strumous or gouty stock. He remarked that in rheumatic arthritis the enlargement about the joints preserved to a certain extent the shape of the joint; there was never any suspicion of fluid, and the resulting anchylosis was very firm. In rheumatoid arthritis the enlargements were often spongy; there was much deformity, and the anchylosis was never so firm as in rheumatic arthritis. Relapses were rare in rheumatoid arthritis, though exacerbations occurred during the menstrual periods and during times of excitement, as Dr. Ord had pointed out.

Anti-rheumatic treatment never did any good in this disease, but tonics were of the greatest benefit. The methods of treating the two diseases with the bath waters were similar, but only in early cases was good likely to result.

The *Gazette* published on the Queen's birthday contains the names of two civilian medical men, besides those of several medical men in the public services. Dr. Bateman, of Norwich, and Dr. George Johnson, of London, are the two medical men in question, and are each to receive the honor of knighthood. Dr. Bateman became qualified in 1849, and became M.D. at Aberdeen University in the following year. He studied also in Paris, and enjoys the distinction of being a Fellow of the Academy of Medicine of Paris. He has made numerous contributions to medical science, and is perhaps best known by his work on "Aphasia." He is at present Senior Physician to the Norfolk and Norwich Hospital. Dr. George Johnson has been a member of the profession for half a century, for he took his M.B. degree at the University of London in 1842, obtaining the University Scholarship in Medicine. He proceeded to the M.D. degree two years later. He is a member of the Senate of the London University, Consulting Physician to King's College Hospital, and late President of the Royal Medical and Chirurgical Society. He is also one of the Physicians Extraordinary to the Queen. His published papers are numerous. His views on the pathology of Bright's disease are well known, and he has lately defended them with unabated vigor. His "Essay on Asphyxia," published in 1889, attracted some attention.

A remarkable law case has just been decided. A boy had his arm amputated at the Bolton Infirmary. The boy subsequently died, whereupon his father sued the house surgeon for the value of the limb removed and assessed it at ten pounds. The judge decided that the father had no property in his son or his son's body and non-suited the plaintiff.

It appears that there was an error in the statement lately promulgated that the County Council disallowed fees for the cleansing of bodies at inquests. They are merely revising the scale of fees and insisting that they shall be paid to the proper persons. It has transpired that a system of "sweating" has been going on.

PORRO OPERATION—SUCCESSFUL.

To the Editor of the Medical Record.

SIR: Having noticed reported in your journal of late several cases of abdominal section for saving fœtal and maternal life, I beg to add my quota from this somewhat remote portion of the continent.

The case was one of Porro's operation, with successful result for mother and child. The patient, a primipara, aged thirty-seven, had suffered for nine years with multiple fibroid tumors of uterus, chiefly sub-peritoneal. Before pregnancy began, her abdomen had attained the size of that of a woman in the ninth month. It having been decided that the child could not be born *per vias naturales*, patient was placed in a private hospital and a date about one week before expected time of confinement was fixed for the operation. Patient took ether well; there were only slight adhesions, and no special difficulties were experienced in the operative procedure. After removal of child an elastic ligature was used temporarily to control hemorrhage, this being replaced by a *serre-nœud* afterward. The blood lost was not of greater amount than in an ordinary confinement. Complete preliminary antiseptic precautions were taken, but hot water only was used during operation. The mass removed weighed about twenty pounds. The child, a fully developed female, weighed about eight and a half pounds and is doing well. The mother made an uninterrupted recovery, and is now, eight weeks after operation, able to go out, having walked about the building for two weeks past.

From experience of this case I am impressed with the feeling that abdominal section, either for removal of child only, or for the more radical operation, can never again be considered in the light of an experiment.

I am, yours truly,

J. F. BLACK, M.D.

HALIFAX, N. S., June 13, 1892.

OXALIC ACID IN CYSTITIS.

To the Editor of the Medical Record.

SIR: In the MEDICAL RECORD of May 21st, page 575, appeared a clipping from *Le Bulletin Médical* of an article, by Dr. Renaud, recommending the use of oxalic acid in cystitis. I have not seen the original article, but, judging from the quotation, it would seem that Dr. Renaud claimed or assumed originality in the use of the acid for cystitis, but by referring to *The Therapeutic Gazette* of March, 1891, page 164, you will find the original prescription as proposed and used by me for the last five years.

I am, yours very respectfully,

A. W. MARSH, M D.

232 MAIN ST., WESTVILLE, CONN., June 4, 1892.

SEX IN EDUCATION AN AFFAIR OF SOCIAL ECONOMICS.

To the Editor of the Medical Record.

SIR: One of the waning superstitions of the age is the fear that women of firm purpose and serious turn of mind may be greatly damaged by mental training and discipline, by anything that can turn natural aptitudes into useful and marketable products. Certain timorous mortals start and shrink lest women college graduates die before their time, go crazy, have fewer babies, perhaps not marry at all, forget *les convenance* in garb and ethics, and cease to cultivate personal beauty and the gentle amenities of every-day existence. These alarmists fear that somehow nature will be overthrown by the present and more benevolent order that prepares women for outside work, instead of allowing or forcing them to undertake it without any special preparation whatever. Fears that social confusion will arise out of it are groundless, and indicate a certain ignorance. Sex being the most significant fact in nature, it is reasonable to suppose that its influence will remain permanently the most potent factor in shaping any career. Women are the artists of this world, who preside over grace and beauty and the pleasures of life. "They reckon ill who leave me out," is true of nature everywhere. And it is not to be imagined that women, any more than men, can escape temperament. It is a ludicrous assumption that they are striving to do so by securing better market values, which is the true and only real meaning of higher education.

A college course for women, whether liberal or technical, is a test of mental integrity that insures to the earnest graduate a salary of $600, $800, or $1,000 to start with, and possibilities of a speedy increase, together with a definite and solid position. The industrial emancipation of women, like that of men, simply means emancipation from poverty, not from society nor from family relations. It is easily seen that the freer a woman is from poverty, the greater possibilities she has to raise marriage from the level of an economic compact to that of a social union. In other words, the educated, disciplined, capable woman will marry because of the happiness to be obtained from social and family life, instead of being actuated by more sordid or frivolous motives. Marriage is undoubtedly a high social institution, and greater freedom of both men and women will tend to elevate and improve it—not abolish it.

Just here the RECORD and its readers may justly ask, What has all this to do with medicine? And the writer will cheerfully and frankly reply, Nothing whatever: yet fully as much as tirades, dissertations, symposia of spe-

cialists, and such like matter, that too frequently abound in medical journals and rattle around in good space that otherwise might be filled with news.

The truth is, there is no such thing as the woman question. There is the progress of society, sentiment, and the personal equation. With the first, the physiologist has repeatedly shown himself unacquainted. With the second, he has nothing at all to do under any circumstances. And he never can know anything about the third, being an outsider. Yet the physiologist, even at this late day, might "spruce up" and become really valuable. Instead of harping upon facts that all the world knows about, as differences between men and women in angles, brain weight, construction of knee, distribution of brain substance, cerebral vascular supply, convolutional arrangement, etc., why not take a sensible view of the situation and decide what is to be done? This is the kind of science that is needed, the matter-of-fact excellence known as business, or the appreciation of values. Physiology alone never saved anything yet. It is common-sense that has a saving grace. The only question of any moment concerning sex in education is simply this: How, when, and where, can girls best receive the special, common-sense, latter-day training that is to increase and sustain both physical and mental powers; that is to fit them, with the least expenditure of force to bear the burdens of life easily; that is to make them so valuable in quality and expedients that they may always escape poverty, and remain forever capable of happiness, and efficient for usefulness? These are posers expressly designed for physiologists. And their careful consideration will help the world at large and greatly diminish the labors of medical readers in particular, for such investigation is not the work of a day, being quite outside the region of sentiment and personal preference. In this way, if in no other, the long-suffering public may secure what is known as "a rest." Meantime the world goes on, duty continues, civilization advances, humanity improves and is happier, and life is ennobled and enriched—in spite of the physiologist.

LOUISE FISKE BRYSON, M.D.

38 WEST THIRTY-EIGHTH STREET.

Women Medical Students in Russia.—The higher education of women in Russia has received a back-set, owing to the great influence of M. Pobedonoszens, Minister of Religion, with the Emperor. A few weeks ago, in answer to the general demand, the thirty-seven members of the Imperial Council presented a memorial to his Majesty, favoring the establishment of a separate school of medicine for women. It was said in the petition, among the reasons for the establishment of the institution, that there were annually eight thousand graduates of women's colleges in Russia. Owing to the distress in the country, the majority of these young women must give up ideas of marriage and would have to earn their own living. The profession of medicine would open up a profitable career to many of them. Five thousand roubles had been given to the capital for that purpose by wealthy citizens, the Minister of Instruction had expressed his belief in his ability to provide money for additional expenses, and the city authorities had promised to place the hospitals at the service of the women for clinical purposes. The Czar, it is said, looked upon the project with favor. But Pobedonoszens gained his ear. He reiterated the old theories regarding the proper sphere of women. He declared that the study of medicine led to a materialism, atheism, and nihilism, and thus to the destruction of the Empire. It should, therefore, never be permitted. Women were only fit for midwives and nurses. Pobedonoszens, to the chagrin of many people and the surprise of the imperial councillors and the Minister of Instruction, won his battle unaided. But the best friends of Russian women hope that the establishment of the medical school has only been postponed, and that Pobedonoszens will live to see his opposition unavailing.—*The Tribune.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 18, 1892.

	Cases.	Deaths.
Typhus fever	1	2
Typhoid fever	8	5
Scarlet fever	100	30
Cerebro-spinal meningitis	1	6
Measles	422	37
Diphtheria	72	18
Small-pox	19	4
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
Mumps	0	0

Public and Pay Patients for State and Private Asylums.—In answer to numerous inquiries and to correct certain misapprehensions that now exist relative to the commitment and the care and treatment of the insane, the State Commission in Lunacy publishes the following:

1. *The Commitment of the Insane.*—By the statute no insane person can be admitted to an institution for the care and treatment of the insane except upon a medical certificate of lunacy, made jointly by two physicians, under a form prescribed by the State Commission in Lunancy. The form at present in use went into effect July 1, 1890, and commitments can now only be made under such form and upon blanks prepared and furnished by the State. These blanks can be obtained upon application to the State Commission in Lunacy, County Clerks, Superintendents of the Poor, and Superintendents of asylums or hospitals for the insane, both public and private. The medical certificate must be filled out strictly according to its terms in order to secure the commitment of a patient. There must be a final examination of the patient on the same day by both certifying physicians, although the final examination need not be conducted by each physician in the presence of the other. The date of the final examination is the date of the certificate. A patient can be admitted under such medical certificate at any time within ten days from its date, namely, the date of the final examination. While a patient may be admitted upon such certificate prior to its approval by a judge of a court of record, the patient cannot be detained more than five days without such approval, and therefore it is advisable, in order to avoid delays and a re-examination when such approval is not made within the required time, to procure the approval prior to the admission of the patient. The approval must be made by a judge of a court of record of the county or judicial district in which the patient resides. If, however, the patient has no fixed residence within the State, then the certificate may be approved by a judge of a court of record of the county or judicial district wherein such patient may be. A medical certificate prescribed by the Commission is an absolute requisite to the commitment of a patient; a judge, however, may require other and additional evidence. He may summon witnesses or additional physicians or may in his discretion call a jury in each case to determine the question of lunacy. Therefore, in order to avoid expense and delay, it is essential that great care should be taken in the preparation of such medical certificate. The statute provides that only such physicians as have been properly certified by a judge of a court of record, and only after a certified copy of their certificate of qualification has been filed in the office of the State Commission in Lunacy, can prepare such medical certificate. A medical certificate prepared by either one or both physicians whose certificate of qualification has not been filed in the office of the Commission

is void by statute and a re-examination of the patient must be had.

Section 2, Chap. 446, Laws of 1874 provides that "It shall not be lawful for any physician to certify to the insanity of any person for the purpose of securing his commitment to an asylum, unless said physician be of reputable character, a graduate of some incorporated medical college, a permanent resident of the State, and shall have been in the actual practice of his profession for at least three years. And such qualifications shall be certified to by a judge of any court of record."

Section 7 of Chapter 283. Laws of 1889, as amended by Chapter 273, Laws of 1890, provides that "One year after the date of the passage of this act (May 14, 1889), it shall not be lawful for any medical examiner in lunacy to make a certificate of insanity for the purpose of committing any person to custody unless a certified copy of his certificate has been so filed and its receipt in the office of the commission (State Commission in Lunacy) as above provided has been acknowledged."

2. *Public Patients.*—Public patients, except in the counties of New York and Kings, are required by the statute to be cared for in State hospitals situated within the hospital district in which they reside, the statute requiring that the State be divided into as many districts as there are State hospitals. A patient, however, who desires care and treatment in a State hospital situated beyond the hospital district in which he resides may be admitted to such hospital upon the following conditions:

a. When there is a vacancy.

b. In the discretion of the President of the State Commission in Lunacy and the Superintendent of the hospital to which the admission of the patient may be desired.

c. That any expense of removal beyond the limits of the hospital district in such case must be borne by said insane person's guardians, relatives, or friends, as the case may be.

This statute is liberally construed, and in no instance has the consent of the President of the Commission been refused or will such consent be refused in any proper case. When applications are made by mail or telegraph to the office of the Commission, in Albany, such consent will be promptly given.

3. *Public Patients from the Counties of New York and Kings*—Public patients from the Counties of New York and Kings may be admitted to any State hospital within the State, with the consent of the authorities of such hospital and the Commissioners of Charities and Corrections of either of said counties.

4. *Private or Pay Patients.*—Private or pay patients may be admitted to any State hospital without reference to the hospital district in which they reside, upon the following conditions:

a. That there is room.

b. That the hospital authorities are willing to receive the patient.

c. That no patient shall be permitted to pay a sum in excess of ten dollars per week.

The maximum sum of ten dollars per week, to be charged for the care and treatment of a private or pay patient in a State hospital, was agreed upon at a conference of the State Commissioner in Lunacy and the Trustees and Superintendents of State hospitals. This limit of price was fixed upon in order that the rights of the dependent insane for whom the State hospitals were established, should not be encroached upon by patients who are able to pay a greater sum and who would require in return therefor a corresponding amount of room space and other allowances, which in view of the constant demand for accommodations for the dependent insane could not properly be accorded them. Each State hospital being established upon the principle of the greatest good to the greatest number, and recognizing no class distinctions, obviously no advantages, in the way of extra room space, etc., can properly be given, and especially in view of the fact that adequate and competen private care and treatment, both allopathic and homœopathic, can now readily be obtained for the non-dependent insane in private institutions, under the supervision of the State, for ten dollars per week and upward.

5. *Private Asylums.*—All private institutions for the care and treatment of the insane are required by statute to be licensed by the State Commission in Lunacy, and the commission is empowered to revoke any such license in its discretion when proper cause exists therefor, and no insane person can be committed to any institution, retreat, home, or sanitarium, which is not so licensed.

The following is a list of the licensed private institutions for the insane, with the name of the physician in charge, the location and the minimum sum charged per week:

Institution.	Physician in Charge.	Location.	Minimum Rate per Week.
Bloomingdale Asylum..	S. B. Lyon.....	New York....	$5 00
Providence Retreat....	Harry A. Wood..	Buffalo.....	6 00
Marshall Infirmary.....	J. D. Lomax....	Troy.....	5 00
Long Island Home....	O. J. Wilsey	Amityville	10 00
Brigham Hall.....	D. R. Burrell....	Canandaigua..	10 00
*St. Vincent's Retreat..	J. A. Underhill ..	Harrison	10 00
Sanford Hall.....	J. W. Barstow...	Flushing.....	25 00
*Dr. Wells's Sanitarium.	T. L. Wells.....	Brooklyn.	10 00
Dr. Combes's Sanitarium	R. C. F. Combes.	Woodhaven ..	10 00
Dr. Choate's House....	G. C. S. Choate..	Pleasantville..	75 00
Dr. Parsons's House...	R. L. Parsons....	Sing Sing.....	75 00
Falkirk.....	J. F. Ferguson...	Central Valley.	20 00
Vernon House	W. D. Granger..	Bronxville....	35 00
Breezehurst Terrace....	D. A. Harrison..	Whitestone....	20 00
Waldemere.....	E. N. Carpenter..	Mamaroneck ..	25 00
The Pines.....	Fred. Sefton.. ..	Auburn	20 00
Glenmary Home.....	J. T. Greenleaf..	Oswego	10 00
Dungarthel.....	H. R. Styles....	Lake George.	25 00

* Receive female patients only.

Caterpillars as a Cause of Urticaria.—Laudon, in *Virchow's Archiv.*, vol. i., 25, has described an epidemic of urticaria at Rahlberg, which coincided with the appearance of caterpillars on the walls of dwellings. The cause of urticaria is not only in the formic acid, but more particularly in the hairs of the back of the caterpillars.

The International Temperance Congress.—The preliminary programme of the Fourth International Congress for the Prevention of the Abuse of Alcoholic Drinks, which, as has already been announced, is to meet at The Hague on September 8th, has been issued. The following are the subjects proposed by the Organizing Committee for discussion: 1. "Alcohol in its Moral, Hygienic, and Medical Relations;" 2, "The Preventive and Educational Measures in Use for the Repression of the Abuse of Alcoholic Drinks (Associations, Meetings, the Press, Amusements for the People); and 3, "The Compulsory Means which can be Employed by the State and the Community for the Suppression of Drunkenness."

An Aggressive Hotel Doctor.—An alleged physician of Washington, D. C., has sued several lady guests at a hotel for medical services. They claim that his services were forced on them and that he prescribed medicine voluntarily, telling them they were sick and needed it. One lady protested that she was not sick, did not need any medicine, and if she did, she had a regular physician, and could consult him. Another was not a little annoyed by his insisting on removing freckles from her face.—*Medical Standard.*

Disinfected Second-hand Clothing.—The medical department of the Ministry of the Interior in Russia has issued an order that all second-hand articles put up for sale must be disinfected and provided with labels testifying to the act of disinfection. The police surgeons are to be charged with the duty of enforcing this order, and all second-hand articles not provided with the proper testimonials will be confiscated.

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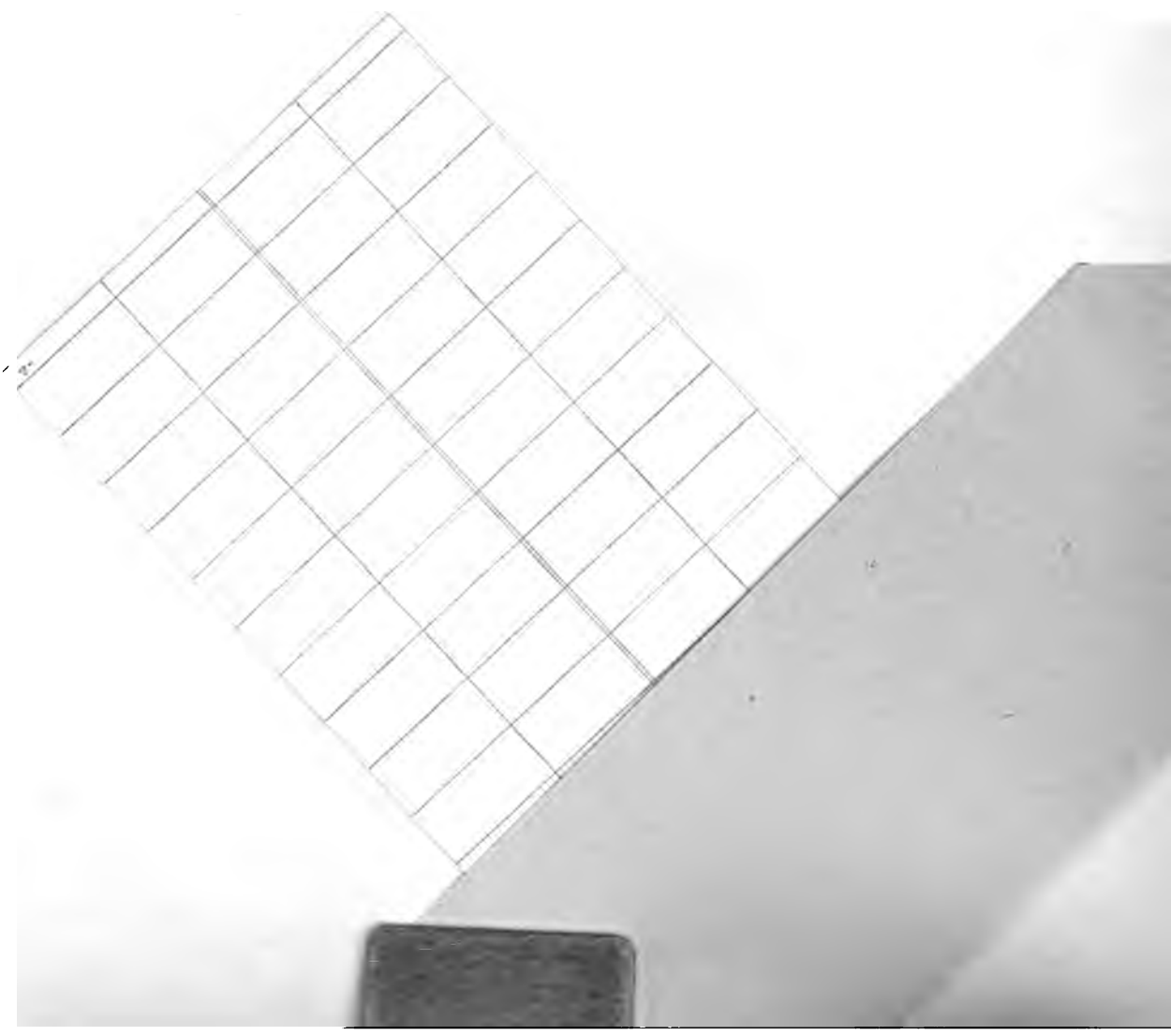
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